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1.

Authors: A. Sai Kumar, M Ganesh, Nirmith Kumar Mishra, Manish Choudhary, Yashwanth Rao Bandari

Paper Title: Design and Development of Man Portable Back Packable Multi-Purpose Drone

Abstract:This report mainly presents the concepts, design and analysis of a 'Man Portable Back Packable Multi Purpose Drone (MPBPMD)' which has many applications in different areas for different operations. The technology employed in the design of this 'MPBPMPD' is adapted from the mechanism of tilt rotor, which can be fabricated as rotor MAV, similar to helicopters and hovercrafts. The main objective of this aircraft design is to provide payload bay which can be installed with multiple payloads like a camera which can be used for surveillance or a speaker to control the animals in the reserved forest, etc. The MPBPMPD will be equipped with Auto pilot for a better operational control and navigation of the aircraft even at the places with less Launch distance using its VTOL capability. The wing attach/detach mechanism technique is also used to provide the aircraft with better portability. The complete aircraft should fit in a backpack, so that the complete model can be carried easily for better portability.

Keyword: Micro Unmanned Air Vehicle (MUAV), Tilt-rotor, VTOL, Portability, Design, Wing attach/detach.

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2.

Authors: Ganna Bedradina, Sergii Nezdoyminov, Andrii Ivanov

Paper Title: Usability Audit Technology of Travel Agency Website

Abstract:In the context of growing competition in the market of tourist services, it becomes necessary to introduce digital technologies: booking tours with the help of on-line service, which saves time, speeds up the processing of the application and confirmation of the selected tour. The introduction of information technologies in the system of booking and reservation of hotels, air tickets requires the development of high-quality design and convenient search for consumers on the websites of travel companies. In the modern conditions of globalization of the tourist market, quality management of website service has become a major factor in improving the competitiveness of tourism businesses. An important aspect of the activity of a tourist enterprise is the formation of tools for evaluating its own tourist site in comparison with the websites of enterprises-leaders of the tourism market. Due to the limited financial, labor and time resources objectively arises a problem of ranking directions, methods and specific measures to improve the service quality offered by travel agencies on their web pages. To further identify ways to improve the quality and profitability of the travel agency's website, the authors proposed to use modern methods of website usability audit, that is, the evaluation of the ease of use of the site by the end user. The authors conducted an audit of the websites of travel agencies basing on the methods of taxonomic analysis. They defined the main indicators of assessing the level of quality service provided to visitors of the site, which significantly affect the e-commerce system of travel agencies and the total profit from on-line sales of travel services. The method proposed by the authors can serve as a basis for further improvement of audit technologies of websites of travel agencies and e-commerce operations.

Keyword:usability audit technologies, website, benchmarking, taxonomic analysis methods, travel agencies.

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3.

Authors: **Adane Abebaw Gessesse, Rajashree Mishra, Mitali Madhumita Acharya**

Paper Title: **Solving Multi-Objective Linear Fractional Stochastic Transportation Problems Involving Normal Distribution using Simulation-Based Genetic Algorithm**

Abstract:In real-life situations, we human beings faced with multi-objective problems that are conflicting and non-commensurable with each other. Especially, when goods are transported from source to locations with a goal to keep exact relationships between a few parameters, those parameters of such problems might also arise in the form of fractions which are linear in nature such as; actual transportation fee/total transportation cost, delivery fee/desired path, total return/total investment, etc. Due to the uncertainty of nature, such a relationship is not deterministic. Mathematically such kinds of mathematical problems are characterized as a multi-objective linear fractional stochastic transportation problem. However, it is difficult to handle such types of mathematical problems. It can't be solved directly using mathematical programming approaches. In this paper, a solution procedure is proposed for the above problem using a stochastic Genetic Algorithm based simulation. The parameters in the constraint of the above problem follow a normal distribution. The probabilistic constraints are handled by stochastic simulation-based GA for the solution procedure of the proposed problem. The feasibility of probability constraints is checked by the stochastic programming through the Genetic Algorithm approach, without finding the equivalent deterministic model. The feasibility is maintained all-over the problem. The stochastic simulation-based Genetic Algorithm is considered to generate non-dominated solutions for the given problem. Then, a numerical case study is provided to illustrate the method.

Keyword: Genetic Algorithm, multi-objective programming, stochastic fractional programming, transportation problem.

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4.

Authors: **Vignesh Selvaraj Nadar, Vaishnavi Shubhra Sinha, Sushila Umesh Ratre**

Paper Title: **Smart Home Automation usingHand Gesture Recognition System**

Abstract:Visual interpretation of hand gestures is a natural method of achieving Human-Computer Interaction (HCI). In this paper, we present an approach to setting up of a smart home where the appliances can be controlled by an implementation of a Hand Gesture Recognition System. More specifically, this recognition system uses Transfer learning, which is a technique of Machine Learning, to successfully distinguish between pre-trained gestures and identify them properly to control the appliances. The gestures are sequentially identified as commands which are used to actuate the appliances. The proof of concept is demonstrated by controlling a set of LEDs that represent the appliances, which are connected to an Arduino Uno Microcontroller, which in turn is connected to the personal computer where the actual gesture recognition is implemented.

Keyword: Arduino, Gesture Recognition, Home Automation, Human Computer Interaction, Machine Learning.

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5.

Authors: **J. Sony, A.Vimala**

Paper Title: **Non-Linear Performance of Strong Column Weak Beam RC Frame Building**

Abstract:Buildings are designed in different methods for resisting the lateral loads, in which strong column weak beam concept is one of the methods of designing, this method is used to avoiding the global failure of the structure In this work 3bay 5 story RC frame building is consider for the analysis, the structures are design strong column weak beam with the help of static non-linear pushover analysis of RC frame building with increasing the percentage of column sizes 20%, 40%, 60%, 80% and 100%. By varying with percentage of columns resistances of structure is increased. The parameters base shear, story displacement, and hinge formations in the structure is obtained from this analysis. The base shear and displacement are increased by increasing the column sizes, these parameters are discussed the results in detail. Comparing the all six model results the base shear in increased by 266.64% when the column size is increased by 100%. From this analysis we can reduce the failure in the structure during the earthquake. Formation of plastic hinges in column changes to beam by increasing the column size, so increase the capacity of structure. The building is analyzed by using SAP2000.

Keyword: Base shear , plastic hinges, pushover analysis, strong column, weak beam.

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6.

Authors: **Karunamoy Chatterjee, Tapan Maity, Subrata Chattopadhyay**

Paper Title: **Temperature Measurement of Coal Pipe of Coal Mills by a Modified Bridge Circuit**

Abstract:In our earlier work we proposed a method to measure the temperature of the coal pipe of Coal Mills in PF Boiler by a continuous basis, In order to achieve, accurate measurements of coal pipe temperature, using the resistive transducers like resistance temperature detector (RTD), the small resistance changes linearly with temperature, but resistance measurement by using RTD using normal Wheatstone bridge circuit would have errors for the stray capacitance presents in between bridge nodal points and the ground. Hence, by the use of a modified operational amplifier based Wheatstone bridge network, these effects can be minimized. The bridge performance has been studied experimentally with RTD. It has been observed good linearity, repeatability and variable sensitivity over the wide range of temperature.

Keyword:RTD, stray capacitance, op amp based bridge network.

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7.

Authors: **Srinivasulu Pathakamuri, B.V. Ramana Reddy, A.P. Siva Kumar**

Paper Title: **Elliptic Curve Digital Signature Algorithm for the Third Party Auditing**

Abstract:Cloud computing usage has been highly increased in past decades, and this has many features to effectively store, organize and process the data. The major concern in the cloud is that security is low and user requires verification process for the data integrity. Third Party Auditing (TPA) technique is applied to verify the integrity of data and various methods has been proposed in TPA for effective performance. The existing methods in TPA has the lower performance in communication overhead and execution time. In this research, Elliptic Curve Digital Signature (ECDS) is proposed to increase the efficiency of the TPA. Bilinear mapping technique is used for verification process without retrieving the data and this helps to reduce the communication overhead. The performance of ECDA is measured and compared with the existing method to analyze the performance.

Keyword: Bilinear mapping, Cloud computing, Communication overhead, Elliptic Curve Digital Signature and Third Party Auditing.

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8.	**Authors:**	**Praveenkumar Chandran, Manojkumar S, Prabha Umapathy, Venkatasalam MPV**
	Paper Title:	**PLC based Mall Automation System**

Abstract:This paper is formed by keeping the power consumed in the malls. As the shopping malls are the global phenomenon where every little outdoor bazaar products are sold. People not only find malls for purchasing goods, it is also known as a cultural hot spot where people of all ages meet up to interact. As everyone of us know malls consume a lot of energy and not all energy are used in an efficient manner. So, to overcome this energy loss, PLC's are used to automate the malls. To start with, the parking system is fully automated so that only a specific number of vehicles can be parked inside. The door of the parking will be opened and closed automatically until the parking is full. When the parking is full the buzzer will beep so that the further incoming vehicles will be directed to another parking area thereby avoiding confusions. Elevator will be present to take customer from basement parking. Once the customer reaches near the elevator the elevator will be directed to basement. Another small way to reduce power wastage is that if elevator is present in two different floors then the elevator will move to the floor which is nearer to the present floor. This process is done by comparing the distance between the present floor and the floor which the elevator is to be moved. The elevator will move to the floor which has less distance from the present floor and therefore a little amount of power and the customer waiting time can be saved. "Saving each penny will help you to build a house one day". Air-Conditioner of the malls are also adjustable according to the temperature. The temperature is constantly being monitored by a Resistance Temperature Detectors (RTD). If there are a lot of people then it would naturally be warm so that the temperature of the Air-conditioner is further reduced so that more cooling takes place and automatically as more people leave out the mall would be cool if the same temperature is maintained, therefore the temperature is raised accordingly. Lights and Airconditioner get turned off when there is no one in the mall. For further development PLC's can be used for theft protection in each shop in the malls. If there is no one inside the shop then all the power coming to the shop will be cut off and then if there is someone who breaks the door or the window then a buzzer is made to make noise

Keyword: Mall Automation, Man Power Reduction, PLC, Power Consumption

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9.	**Authors:**	**Swapnil Kumar**

	Paper Title:	**Performance Enhancement of Wind Turbine**	
	Abstract:Wind turbine performance and efficiency used to face big challenges due to the highly random nature of the wind and its own small size. Wind turbine blade geometry has direct implications on the load bearing response and performance of the blade. New Wind Turbine Blade was modelled and detailed analysis was done using Ansys and Matlab. Static, Fatigue, Vibration, Computational Fluid Dynamics and Simulink Analysis was done to compare the performance of both wind turbine blades. Velocity of 83.33 m/sec have been incorporated for analysis. Various different Mathematical Equations and proper methodology was carried out to enhance the performance of Wind Turbine. Simulink Model was designed to optimize the performance of Wind Turbine. High Lift to Drag Parameter is optimized for proper Efficiency of Wind Turbine. Turbine blades are twisted so they can always present an angle that take advantages of the ideal lift-to-drag ratio. Optimization of Tower Design was carried out to enhance the performance of wind turbine. Better energy Production parameter is solved by the analysis and Simulation. Simulink Model was designed to optimize the performance of Wind Turbine. Simulink Output results shows the output of Electromagnetic Torque, Stator Current and Rotor Speed. Stress vs Strain Graph was plotted for both designed wind Turbine blades. Coefficient of drag graph was plotted to conclude the performance of Wind Turbine Blades. Turbulence behaviour is observed for both the wind turbine blades to validate the performance of Wind Turbine blades. Epoxy Material is considered for Wind Turbine blades. **Keyword:**Performance, Efficiency, Damage, Blades **References:** 1. Small Wind Turbine augmentation: Experimental Investigation of shrouded and twin-rotor wind turbine systems. 2. Michal Lipian, Ivan Dobrev, Maciej Karczewski, Fawaz Massouh, Krzysztof Jozwik 3. Experimental Investigation of the Power performance of a minimal wind turbine array in an atmospheric boundary layer wind tunnel. 4. Bingzheng Dou, Michele Guala, Pan Zeng, Liping Lei 5. Pitch Angle Control of a wind turbine operating above the rated wind speed: A sliding mode control approach. 6. L.Colombo, M.L. Corradini, G. Ippoliti, G.Orlando 7. Experimental Validation of the power Enhancement of a pair of vertical axis wind turbines. 8. Antoine Vergaerde, Tim De Troyer, Lieven Standaert, Joanna Kluczewska-Bordier, Denis Pitance, Alexandre Immas, Frederic Silvret, Mark C. Runacres. 9. Hydraulically actuated horizontal axis wind turbine pitch control by model free adaptive controller. 10. P.Venkaiah, Bikash K. Sarkar 11. Trailing-edge serrations effect on the performance of a wind turbine. 12. Elena Llorente, Daniele Ragni 13. A comprehensive Review on Contemporary materials used for blades of wind Turbine. 14. A.V Pradeep, S.V. Satya Prasad, LV. Suryam, P. Prasanna Kumari 15. Fatigue Reliability assessment of offshoe wind turbines wind turbines with stochastic availability. 16. Jan-Tore Horn, Bernt J.Leira 17. Numerical Investigations into the idealized diurnal cycle of atmospheric boundary layer and its impact on wind turbines power performance. 18. Linlin Tian, Yilei Song, Ning Zhao, Wenzhong Shen, Tongguang Wang, Chunling Zhu 19. Numerical study for the flow field and power argumentation in a horizontal axis wind turbine. 20. Mona Abdelwaly, Hesham El-Batsh, Magdy Bassily Hanna 21. Effect of Geometric Uncertainties on the aerodynamics characteristics of Off shore Wind Turbine Blades. 22. Benedikt Ernst, Henning Schmitt, Jorg R.Seume	**43-46**
10.	**Authors:**	**Vijayarani. A, Lakshmi Priya G. G.**	
	Paper Title:	**CSL Net: Convoluted SE and LSTM Blocks Based Network for Automatic Image Annotation**	
	Abstract:Due to advancement of multimedia technology, availability and usage of image and video data is enormous. For indexing and retrieving those data, there is a need for an efficient technique. Now, Automatic keyword generation for images is a focussed research which has lot of attractions. In general, conventional auto annotation methods having lesser performance over deep learning methods. The annotation is transformed as captioning in deep learning models. In this paper, we propose a new model CSL Net (CSLN) as a combination of convoluted squeeze and excitation block with Bi-LSTM blocks to predict tags for images. The proposed model is evaluated using the various benchmark datasets like CIFAR10, Corel5K, ESPGame and IAPRTC12. It is observed that, the proposed work yields better results compared to that of the existing methods in term of precision, recall and accuracy. **Keyword:**Automatic image annotation, Image captioning, Deep learning, Convolution, Squeeze and Excitation Block, Long – short term memory block. **References:** 1. Wang, C., Yang, H., Bartz, C., & Meinel, C. (2016, October). Image captioning with deep bidirectional LSTMs. In Proceedings of the 24th ACM international conference on Multimedia (pp. 988-997). ACM. 2. Tan, Y. H., & Chan, C. S. (2017). Phrase-based Image Captioning with Hierarchical LSTM Model. arXiv preprint arXiv:1711.05557. 3. Hua, Y., Mou, L., & Zhu, X. X. (2019). Recurrently exploring class-wise attention in a hybrid convolutional and bidirectional LSTM network for multi-label aerial image classification. ISPRS journal of photogrammetry and remote sensing, 149, 188-199. 4. Krizhevsky, A., Sutskever, I., & Hinton, G. E. (2012). Imagenet classification with deep convolutional neural networks. In Advances in neural information processing systems (pp. 1097-1105). 5. Kiros, R., Zhu, Y., Salakhutdinov, R. R., Zemel, R., Urtasun, R., Torralba, A., & Fidler, S. (2015). Skip-thought vectors. In Advances in neural information processing systems (pp. 3294-3302).	**47-54**

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11.	**Authors:**	**B. Reddaiah**	
	Paper Title:	**Cryptosystem using Crossover Function and Logical Operators**	
	Abstract:As technology is growing faster and exchanging of data is mostly carried through internet different mechanisms are being developed to counter unwanted access to the data. By introducing the web and pay out programs, it becomes very difficult to protect the data even with more mechanisms. It is becoming a big concern and worry in securing individuals data. These types of problems can be solved with cryptography and data can be secured in the network. In developing security systems Genetic algorithms are playing important role. In this proposed work crossover function from Genetic algorithms along with bitwise logical operations are used together to build a hybrid cryptosystem. **Keyword:**Security mechanisms, Security attack, Encryption, Decryption, Genetic algorithms, Crossover Function. **References:**1. Reddaiah, R Pradeep kumar Reddy, S. Hari Krishna "Enciphering using Bit–wise logical operators and paring function with text generated hidden key," IJCA (0975-8887), Vol. 121, No. 8, July 2015: pp. 30-35. 2. S. William, Cryptography and Network Security: Principles and Practice, 2nd edition, Prentice-Hall, Inc., 1999 pp 23-50. 3. S. Hebert, "A Brief History of Cryptography", an article available at http://cybercrimes.net/aindex.html 4. Behrouz A. Forouzan, Cryptography and Network Security, Special Indian Edition, TATA McGraw Hill. 5. S. Tanenbaum, "Modern Operating Systems", Prentice Hall, 2003. 6. Basic Cryptographic Algorithms", an article available at www.itsc.state.md.us/oldsite/info/InternetSecurity/Crypto/CryptoIntro.html#Algorthms 7. KHAN, "The Codebreakers", Macmillan Publishing Company, New York, 1967. 8. P. P Charles & P. L. Shari, "Security in Computing: 4th edition", Prentice-Hall, Inc., 2008.	**55-59**
12.	**Authors:**	**A Arul Peter**	
	Paper Title:	**Impact of Biogas Blends with Diesel on Emission of Compression Ignition Engine**	
	Abstract:Main objective of the work was to investigate the output like emission from compression ignition engine which has been run by diesel as well as the blends of biogas with diesel. Volume flow rate of biogas with petrol as a major parameter to reach the expected outcome. The engine was operated with diesel, and blends of biogas 15%, 25% and 35% with petrol. The study focused on the variation of outputs hydrocarbon, carbon monoxide(CO) Nitrous oxides(NOX) and smoke for the brake power generated by the engine. The engine exhibits better results when the proportion of biogas was increased. **Keyword:**Biogas, Carbon monoxide, Compression Ignition engine. Emission, Hydro Carbon, Oxides of Nitrogen **References:**1. D.Barik, S.Murugan, "Investigation on combustion performance and emission characteristics of a DI (direct injection) diesel engine fueled with biogas-diesel in dual fuel mode," Energy vol 72, 2014a, pp. 760–771. 2. D Barik, S Murugan , "Simultaneous reduction of NOx and smoke in a dual fuel DI diesel engine," Energy Convers Manag, vol. 84, 2014b, pp. 217–226. 3. BJ. Bora, BK. Debnath, N. Gupta, UK. Saha, N. Sahoo , "Investigation on the flow behaviour of a venturi type gas mixer designed for dual fuel diesel engines," Int J Emerg Technol Adv Eng, vol.3, 2013, pp.202–209. 4. NN. Mustafi, RR.Raine, S.Verhelst, "Combustion and emissions characteristics of a dual fuel engine operated on alternative gaseous fuels. ," Fuel, 2013, vol.109, 2013, pp. 669-678. 5. E. Porpatham, A. Ramesh, B. Nagalingam , "Investigation on the effect of concentration of methane in biogas when used as a fuel for a spark ignition engine. Fuel Issue.87, vol. 9, 2008, pp. 1651–1659. 6. E. Porpatham, A. Ramesh, B. Nagalingam , "Effect of compression ratio on the performance and combustion of a biogas fuelled spark ignition engine," Energy Convers Manag vol. 95, 2012, pp. 247–256. 7. N.H.S.Ray, M.K.Mohanty, R.C. Mohanty, "A Study on Application of Biogas as fuel in Compression Ignition Engines," International Journal of Innovations in Engineering and Technology," Issue 1, vol. 3, 2013. pp. 239-245. 8. BB. Sahoo , "Clean development mechanism potential of compression ignition diesel engines using gaseous fuel in dual fuel mode. Ph.D thesis, Centre for Energy, 2011, IIT Guwahati, India.	**60-62**
13.	**Authors:**	**Ziyaeva Holida Omonkul kizi**	
	Paper Title:	**The Mechanism of the Development of Social Protection of Women in the Context of Domestic Violence**	
	Abstract:True equality of rights and freedoms can be found only on the basis of recognition of the value of each person, creation of stable conditions for self-development of the human intellect, the most complete realization of his creative potential and creative abilities, the comprehensive disclosure of essential forces and talents, which will ensure everyone's full contribution to the development of society. The transition of many countries to the information society - a society of intelligence, knowledge and thinking - creates basic opportunities for self-development and self-realization for every person. The need to adopt a gender strategy is determined by social problems caused by socio-economic and political transformations in Russia. Along with the opening of new prospects for the widespread use of human abilities, people are required to have high adaptive capabilities, which differ significantly between men and women. This article was written with the aim of developing a mechanism for the social protection of women in the context of gender-based violence. The following tasks are defined in the article: how to identify and justify the significance of the physiological premises of gender inequality; show the immanent essence of gender. inequalities in the history of the peoples of the world; to	**63-69**

consider the dynamics of relations of inequality between the sexes; show the essence of violence as manifestations of gender inequality; develop a classification and analyze the types of gender-based violence; to explore the manifestation of gender-based violence in modern society. The article consists of from introduction, literature survey, methodology, recommendation, discussions, and conclusion.

Keyword:domestic violence, mechanism, risk factor, gender inequality, social protection, gender strategy, tools.

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18. The number of women (aged 15–49 years) who have ever had a close partner who have been physically and / or sexually abused by an active or previous close partner in the last 12 months. Aviable to: https://gender.stat.uz/en/v-group-en/1179-the-number-of-women-aged-15-49-years-who-have-ever-had-a-close-partner-who-have-been-physically-and-or-sexually-abused-by-an-active-or-previous-close-partner-in-the-last-12-months1.
19. UN in Uzbekistan supports the Global Campaign Against Gender Based Violence. Aviable to: http://www.un.uz/eng/news/display/175

14.	**Authors:**	**M. Sakthivel, J. Udaykumar, V. Saravana Kumar**
	Paper Title:	**Progressive AODV: A Routing Algorithm Intended for Mobile Ad-Hoc Networks**

Abstract:Mobile ad hoc networks are an independent wireless network that is built without permanent infrastructure and base station support. Each node in the network uses a wireless connection for connections and acts not only as an end system but also as a path to accelerating packets. Meanwhile, the network nodes are mobile and can move in each path with changing steps, creating a great dynamic of the network. Therefore, the protocols set for general ad hoc networks are inappropriate for such a situation. In addition, the performance of ad hoc routing protocols decreases with increasing network size. In this context, suggest a new way to extend the recital of routing in MANETs: the on-demand Progressive Distance Vector (PAODV). It is a modified variant of the standard AODV routing protocol, which shrinks the dynamic path when an optimal path exists and switches the traffic to it. Simulation studies with NS2 show that the proposed method improves network performance as network size, weight, or flexibility increase.

Keyword:MANETs, AODV, Routing protocols.

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Authors: **Sameer Y. Bhosale, G. R. Selokar**

Paper Title: **Assessment of Thermal Performance of Non-Conventional Grooved Stepped Shoe Ribs by CFD Technique**

Abstract:In improvement of the thermal performance there is necessity of the heat transfer augmentation. Heat transfer enhancement can be achieved with enlarged or extended surface, impeded boundary level, augmentation in the turbulence etc. It is desired to keep the size of heat exchanger compact for better working conditions. In the proposed work, we made the Computational Fluid Dynamics (CFD) analysis of the non-conventional type of ribs. In this work the non-conventional Stepped grooved shoe shaped ribs were studied by changing its geometry parameters like rib height (15, 20,22mm), thickness of the rib (4, 5,10 mm), and the ratio between these entities. The numerical analysis was done to study change in rate of heat transfer and pressure drop. The effects of variation in staggered arrangements and truncation gap on thermal performance were also studied. It was observed that providing staggered arrangement with truncation gap of 20 mm gives the optimum value of thermal enhancement factor of 1.33.

Keyword: Modified shoe shape, stepped shoe shape rib, heat transfer enhancement, thermal enhancement

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16.

Authors: **Aritra De, Tirthankar Datta**

Paper Title: **Spectrum Allocation by Sealed Bid Game Theory**

Abstract:Wireless communication subscribers are increasing day by day specially in fifth generation (5G) wireless communication where multiple number of users (Multiple Input Multiple Output or MIMO) can be served in a specific time. The heavy data usage is also enhanced with the increasing the number of subscribers, this data transfer speed depends on the amount of spectrum allocation to the specific subscriber. Thus, spectrum allocation is a major criterion for wireless communication performance improvement. The spectrum allocation efficiency can be observed by Game Theory, which is a popular decision maker of modern era. Sealed Bid Game theory is one of the popular segment of the game theory. The spectrum allocation can be done by using Sealed Bid Game theory and spectrum equilibrium can be observed by using different sub division of Sealed Bid Game theory.

Keyword:5G, MIMO, Game Theory, Sealed Bid Game Theory, Spectrum Allocation.

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17.

Authors: **Bhagya Nathali Silva, Murad Khan, Kijun Han**

Paper Title: **Enhanced Slack Time based Price Driven Demand Response for Future Effectual Smart Communities**

Abstract:Evolution of smart grid concept aims to address the imbalance between electricity demand and supply. Owing to consideration on sustainable energy, user comfort, and cost efficiency, residential Demand Response (DR) has gained a remarkable popularity over the past few years. To further enhance these benefits, herein we propose a residential appliance scheduling algorithm inspired by Least Slack Time (LST) algorithm. The conventional LST algorithm is amended with consumption thresholds and waiting factor constraints to derive proposed Minimum Slack Time (MST) algorithm, which increase cost and comfort efficiency during DR. Proposed algorithm was experimented in a simulated residential community consists of 50 houses. Further experiments were conducted by aggregating renewable energy sources using aggregated MST (AMST) algorithm. All instances were compared with an existing scheduling mechanism to assure superiority of proposed MST and AMST algorithms, in terms of grid electricity consumption, cost, Peak-to-Average Ratio (PAR), and waiting time.

Keyword: Cost efficient scheduling, Minimum slack time, Peak load reduction, Residential demand response, User convenience

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18.

Authors: **Anuradha S., R.Udhya Kumar**

Paper Title: **Manipulation of Nonsense to Bring Sense: The Pinter Technique**

Abstract:Harold Pinter, the Nobel laureate, is a literary giant of modern drama in English. His plays are categorized as belonging to the absurd theatre along with the likes of Beckett. The absurd theatre makes use of language in a peculiar way to communicate the real predicament of human existence. Harold Pinter, as a chief exponent of the Absurd Theatre made a significant stamp on the theatrical language. His style is so unique that it led to the coinage of the word 'Pinteresque'. The speeches in his plays are an interplay of both sense and nonsense. This article aims to analyze the language employed by Harold Pinter and in the process examine how absurd it actually is.

Keyword: Absurd, expression, language, meaning, purpose, silence,

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19.

Authors: **Priti Sagar, Prabeer Kumar Parhi, B. Bharti**

Paper Title: **Policy Design for Optimizing the Hydropower Generation Potential of Maithon Multi-purpose Reservoir System**

Abstract:It is proposed to develop an optimal operating policy for the Maithon multi-purpose reservoir system,situated at Maithon, which is approximately 48 km from the district of Dhanbad (Jharkhand), India.The present objective is to maximize hydropower generation subjected to reservoir mass balance, release, storage,reservoir-drawdown level, overflow,maximum flood zone space,maximum and minimum storage constraints under three different dependable inflow conditions namely 50%, 70% and 90%.The storage curves also been derived after analyzing the various policies and was observed to be persistent with that of demand requirements.The derived policy is capable of producing maximum annual hydropower of 133394.43 MWh,103015.14 MWh and 61782.77MWh for 50%, 70% and 90% dependable inflow conditions respectivelyagainst theexisting generated values of hydropower as 102958.3 MWh which has been averaged over last 10 years.Further the firm hydropower power values obtained under 50%, 70% and 90% dependable inflow conditions are 5.773 MW, 3.421 MW and 2.67 MW respectively.In this study the potential ofhydropower energy production of the reservoir system is explored extensively, and a trade-off between reservoir release

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especially for irrigation purpose andmaximum energy production has been established for the use of various stakeholders as well as managers of reservoir operations .

Keyword: Optimal-operation-policy, Optimal hydropower generation, LINGO, Dependable inflow, Maithon reservoir

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20.	**Authors:**	**M.Z.A. Yazid, Azreen Zainol, A.M. Mustapaha**
	Paper Title:	**Effect of Machining Parameters in Milling Aluminum Alloy 7075-T6 under MQL Condition**

Abstract:Minimum quantity lubrication (MQL) is an eco-friendly method, where a small amount of fluid was sprayed to cutting edge in mist form with the aid of the air. The foregoing studies revealed that inappropriate machining parameters without the assistance of the cutting fluid methods became a major challenge in milling aluminum alloy 7075-T6. The paper presents the findings of the experimental work to assess the effect of machining parameters towards cutting tool life and machined surface roughness in milling aluminum alloy 7075-T6 at high cutting speed under MQL condition. An eight-run experiment was designed according to full factorial design based upon two levels of cutting speed (500 m/min, 600 m/min), feed rate (0.12 mm/tooth, 0.15 mm/tooth), and axial depth of cut (1.40 mm, 1.70 mm) and then analyzed employed ANOVA to determine the significant machining parameters. The cutting tool life and machined surface roughness were assigned by the rejection criterion of tool flank wear in the milling operation. The optical microscope and portable surface roughness tester were applied to analyze tool wear and average surface roughness value. Cutting speed and feed rate were significantly contributing to the tool life and surface roughness. The longest tool lifespan of 20.14 minutes and lowest surface roughness value of 0.569 µm were obtained at a speed of 500 and 600 m/min, respectively, with a low combination of the rest of parameter which are 0.12 mm/tooth and 1.40 mm.

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Keyword: Minimum Quantity Lubrication, Machining Parameters, Aluminum Alloy 7075-T6, Tool Life, Surface Roughness.

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21.

Authors: **Varsha S. Bendre, A. K. Kureshi,**

Paper Title: **Design and PVT Analysis of Robust, High Swing Folded Cascode Operational Amplifier**

Abstract:The folded cascode operational amplifier (FCOA) designed in this paper is the single-pole operational amplifier (op amp). In this design, the conventional current mirror is replaced with wide swing current mirror to overcome the essential drawback of cascode configuration. In this paper, negative feedback is used to improve the small-signal gain and to ensure better stability than multistage amplifiers. This paper also aims at improving the output voltage swing, power dissipation and robustness of the op amp. The designed FCOA is proficient in achieving 67.44dB gain and 1.77V output swingat typical voltage for 180nm CMOS technology. The FCOA is highly stable with phase margin of 62.58º while dissipating 0.5mW power. This amplifier is further verified for variability analysis for Process, Voltage and Temperature (PVT) variations to check robustness. All together testing is done at 45 different PVT combinations and results are tabulated accordingly. At each corner temperature and voltage are varied for all together nine combinations to properly address the effect of PVT variations. The results shows that the op amp exhibits desired response at four corners (FF, TT, SS, and FS) of process, over -40º to 125º C temperature range. Also it is capable of operating at very low voltage up to 0.9V adequately showing reduction in power dissipation. Thus the designed op amp is low power, high swing and robust towards process, voltage and temperature variations.

Keyword: Gain,Process Corners, Output Swing, Robust, Stability,Temperature, Voltage

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22.

Authors: **R. Sudhamani, K. Merriliance**

Paper Title: **Deformation Exploration in Mass Spring Model using Euler and Verlet Integration Methods**

Abstract:The paper assigns the firm technique that has been designed for the mesh based simulation by using the concept of mass spring model. The general mass spring model has been utilized in a lot of applications for instance, fashion designing, merging virtual booth and in the basics of cloth simulations, consecutively in order to develop effectual surgical training through virtual environments. Though, virtual simulators necessitate meeting both requirements that are, dynamic to be real time and high realistic. While dissimilar forces have applied on the particles they generate several differential equations. In order to, solve these equations, different kinds of integration methods have been used to get the best results. Here in this paper, it shows the procedure of generating a mesh based simulation using euler and verlet integrations method. Verlet method executes vigorous compared to Euler integration method on the basis of deformation error.

Keyword:VR, Mass Spring Model, Verlet integration, Mass Spring Methods.

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23.

Authors: **Jayvir Shah, Vikash Patel**

Paper Title: **Modifying Exhaust After-Treatment Device for Complying with Future Emission Norms**

Abstract:Day to day increase in air pollution is one of the serious issues nowadays. One of the main contributors is automobile emissions. It contains gases like carbon dioxide, carbon monoxide, hydrocarbon, nitrogen oxides, and particular matters. In order to address such issues, this paper is focused on the reduction of emissions by modifying the design of an exhaust after-treatment device. The analysis is carried out on a 4-stroke single-cylinder 149cc FZ-S BS4 bike two-wheeler gasoline engine.CO and HC emissions absorbed by an aqueous solution having different TDS of aqua 90ppm RO water, 1000ppm Municipality water, and 10000ppm seawater. Such aqueous solution contains calcium powder and activated carbon in 10:0.5:0.5, 10:1:1 and 10:2:2 in proportion respectively. An optimum solution derived which having a mixture of 10:1:1 proportion having 10000ppm seawater is derived which shows reduction in CO by 50% and HC emission by 40% as compare conventional muffler exhaust emission. The IoT device is used with the MQ-7 sensor to measure CO emission from a modified device and data obtained are compared with PUC (Pollution under control) certified center. This research is to optimize emission from the existing gasoline engine, from April 2017 BS4 is implemented in INDIA nationwide & BS6 will be going to implement by 2020. From April 2017 manufacturer are not allowed to build new engines below BS4 standard but customer those who are having an older version of engines are not having any effect of BS4 & their engines are still emitting more pollution than the current emission norms. More than 100 million of two-wheeler engines were sold in between Feb'06- March'17. This study aims to provide a solution for such engines not from the manufacturer side but from the consumer side to upgrade their vehicle to satisfy future emission norms so that human health will be less affected by such emissions.

Keyword: Air pollution, Exhaust emission, Exhaust after-treatment device, Activated carbon, Internet of things.

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Authors: **Sadhana Kumari, Priyanka Mondal**

Paper Title: **A Wideband Subharmonic Mixer Incorporating Signal Interference Technique Based Isolation Circuit**

Abstract:A broadband (8.7 GHz – 11.5 GHz) performing passive sub-harmonic down-conversion mixer using signal interference technique (SIT) is demonstrated, designed and reported in this paper. The local oscillator (LO) frequency is half of the radio frequency (RF) for the 2xsub-harmonic mixer architecture; therefore, for the RF lying in the range 8.7 GHz to 11.5 GHz, required LO frequency range is 4.25 GHz to 5.65 GHz with 0.2 GHz fixed intermediate frequency (IF). With a broadband operation, designed prototype shows single sideband down-conversion loss in the range 9.6 dB – 12.6 dB. Moreover, large-signal testing infers an adequate linear trait of the proposed design, showing -3 dBm and 11.32 dBm for the 1 dB compression point and third order input intercept point, respectively.

Keyword: Isolation, Sub-harmonic mixer, Signal interference technique, Wideband.

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25.

Authors: **Vikas S, Thimmaraju S N**

Paper Title: **Data Optimization using Apache Flink**

Abstract:Map Reduce, Flink, and Spark, also become more popular in the processing of big data lately. Flink will be an open platform Big Data processing system for Apache-powered batch storage and streaming of data. Flink's query optimizer is constructed for historical information processing (batch) based on parallel storage systems approaches. Flink query query optimizer interprets the questions into jobs of different tasks that are regularly sent. Therefore, taking advantage of task similarities should prevent redundant computation. In this article, the multi-demand optimization model for Flink, Flink was planned and designed on Flink Software Stack's top priority. It's thought-about as an associate in Apache Flink's nursing add-on to maximize multi-demand information sharing. The Flink system takes advantage of option operators ' information sharing resources to reduce overlap and duplication of multi-query in-network information movement. Research findings show that the leveraging of shared option operations in vast information on multiple requests would offer promising time to perform queries. Therefore, in the stream phase, Without doubt the Flink approach can be used to boost application performance over time periods.

Keyword: BigData, Parallel Processing, Flink, batchprocessing, selection predicates.

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Authors:	**Santosh Nagnath Randive, Ranjan Kumar Senapati**	
Paper Title:	**Tri-Concomitant Local Feature Learning for Diabetic Retinopathy Classification**	

Abstract:In this paper, we have proposed a new technique entitled as Transformed Directional Tri Concomitant Triplet Patterns with Artificial Neural Network is proposed for Diabetic Retinopathy Classification. TdtCTp consist of three stages to obtain detail directional information about pixel progression. In first stage, structural rule based approach is proposed to extract directional information in various direction. Further, in second stage, microscopic information and correlation between each sub-structural element are extracted by using concomitant conditions. Finally, minute directional intensity variation information and correlation between the sub-structural elements are extracted by integrating first two stages. After feature extraction, the extracted feature is used as input to the artificial neural network. To the best of our knowledge, this is the first learning based approach for diabetic retinopathy classification. Effectiveness of the proposed method is evaluated in terms of average precision and compared with existing state-of-the-art methods. The experimental analysis shows that the proposed method is achieved significant performance compared to other methods.

Keyword: Feature extraction, artificial neural network, Diabetic Retinopathy Classification.

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27.

Authors: **A.B. Dhivya, M. Sundaresan**

Paper Title: **Enhancing the Tablet Images using Noise Reduction Algorithms by Analyzing Different Color Models**

Abstract:Unidentified tablets are challenges to both patients and healthcare professionals. Using these unknown tablets results in undesirable reaction of drug and also it is foundation to ill health that leads to death even sometimes. Thus, recognition of unidentified tablets is a significant task in medical industry. Identification of tablets is one of the major concerns for public and pharmacists, which can be carried out by means of either text-based or image-based methods. The tablet identification system is focused on removing noise from the tablet images using algorithms like Independent Component Analysis (ICA) and Discrete Wavelet Packet Transmission (DWPT). The three color space models, i.e., RGB (Red-Green-Blue), YCbCr (Y-Luma, C-Chroma of blue and red components) and HSV (Hue-Saturation-Value) are examined for their efficiency on removing noise from tablets. For each color space model, the two denoising algorithms, ICA and DWPT are analyzed and applied. The result is interpreted using metrics like PSNR, FoM, MSSI and Speed. Experimental results proved that denoising with HSV color space model gives maximum efficiency when used with ICA and DWPT-based tablet identification systems.

Keyword: Color Space Model, Tablet Retrieval, Denoising, Wavelet Packets, ICA, DWPT, Reference Image, Consumer Image.

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Authors: **Manoj Hans, Kiran Godashe, Satya Prakash, Anamika Chourasia**

Paper Title: **Active Power Decoupling Topology for Single Phase Bridge Inverter based on Buck-Boost Convertor**

Abstract: Increasing demand of power has led to exploration of non-conventional sources of energy. Solar energy has been the most exploited source of energy in this regard. Effectiveness of power utilization depends on the power conversion from AC to DC. Further improvement in utilization of DC power depends on the DC-DC conversion steps involved. The planned methodology offers a study of power decoupling method while no further power semiconductor are used for a DC to 1-ϕ AC device. 1-ϕ voltage source bridge inverters have primarily two drawbacks, that's reduction in DC voltage usage and disparity in power among the incoming and outgoing sides. These difficulties have been looked upon and a topology has been implemented that uses just a film capacitance beforehand buck-boost convertor that is linked to the voltage-source bridge inverter. Reenactment and preliminary outcome confirmed the credibility of the planned power decoupling technique on the 2-stage 1-ϕ bridge inverter by buck-boost convertor.

Keyword:1-ϕ AC convertor, Buck-boost convertor, voltage-source bridge inverter

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Authors: **M.Rithvik, T. Nagaraju, A. Kalyan Kumar**

Paper Title: **Brainy Diabetes Diagnosis and Doctor Recommendation System**

Abstract:Diabetes is the most common disease that is prevailing now a days from old age people to the young dynamic people which leads to death of the individuals. Eventhough many people are going to hospital in search of a treatment. These treatments may vary from hospital to hospital for the check up and diagnosis. In this scenario there is a need to make people aware of the primitive measures of diabetes and also the treatments as well as the disease intensity stages. This means there should be a treatment from home but not without the presence of a doctor. This paper resembles the diabetes diagnosis system for type1 and type2 diabetes. With the advent of artificial intelligence things are coming to the door steps. This paper illustrates an upcoming technology that makes the finger print based diabetes test system and generation of reports directly to the doctors. As this is the upcoming technology the base of Artificial Intelligence applications in attaining the application of algorithms like SVM, Linear model and Random Classifier.

Keyword: Linear regression, diagnosis, machine learning, Support Vector Machine.

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30.	**Authors:**	**Vivian E. Gutierrez, Rex Mervin P. Ramos, Ryan John L. De Lara Noel T. Florencondia**
	Paper Title:	**Implementation of R.A.9184 in DPWH Region III in the Bidding of Infrastructure Projects**

Abstract:Compliance to Government Procurement Act R.A.9184 by procuring entities remains the biggest challenge to realize the objectives of equality, transparency and responsibility in government procurement in the country. The study focuses on assessing the existing implementation of R.A. 9184 in the bidding of infrastructure projects of concerned District Engineering Offices in Region III by considering the constraints on its processes. There were 45 respondents answered the questionnaires gathered from the seven (7) District Engineering offices of DPWH Region III, namely, Zambales , Bataan and Pampanga. Interviews and feedbacks from the Bids and Award Committee members (BAC), BAC secretariat and Technical Working Groups (TWG) of the Procurement Division of Infrastructure projects were conducted to substantiate the answers of the respondents. The data collected were treated statistically using percentage and weighted mean. All respondents show level of awareness and understanding in the implementation of R.A 9184 of bidding process and they are able to review and re-evaluated all concerns pertaining to any ambiguity of the process. Respondents show competence on how far they understand and implement the process properly. The researchers find that there is a need in identifying minor irregularities to major irregularities to eliminate confusion in selecting the lowest responsive bidder.

Keyword: Bidding, Engineering, Issues, Projects

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31.	**Authors:**	**Ravikiran H. K., Jayanth J**
	Paper Title:	**An Effective Progressive Image Transmission using Superpixel based Saliency Detection and Modified SPIHT Compression Algorithm**

Abstract:A new progressive image transmission system was proposed in this research paper for effective usage of communication bandwidth. At first, the superpixel based saliency detection method was used for segmenting the foreground region from the background region, because it gives more saliency information of an image with the benefit of color contrast. Then, Integer Wavelet Transform (IWT) was applied in the foreground image, which delivers A good quality of the image and also the compression ratio of the image was decent. Additionally, optimized neural network and modified Set Partitioned in Hierarchical Tree (SPIHT) algorithm were applied in the background image that delivers good rate distortion properties in the noise free environment and also enhances the image visual experience. In modified SPIHT, the sub-tree roots were not excluded that helps to encode and quantize the wavelet coefficients effectively. Also, it delivers more information to the image edges that effectively improves the subjective visual experience. Experiment report showed that the proposed work enhanced the Peak Signal to Noise Ratio (PSNR) upto 5dB compared to the existing work.

Keyword: Integer wavelet transform, modified set partitioned in hierarchical tree, neural network, progressive image transmission, and superpixel based saliency detection.

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Authors: **Igor Z. Maslov, Valentin I. Chimshir, Iryna M. Smyrnova, Andrii I. Naydyonov**

Paper Title: **New Technological Scheme for Dredging Process**

Abstract:The present investigation aims to propose adevelopment of new technology for marine dredging operations. The main problem of dredging process connected with profit increase and reduction of time required to produce the necessary amount of soil. It is shown in the article that these can be achieved by changing the technology of slurryprocessing and transporting only. The specific concentration of water in the slurry reductionleads to an increase of the most important working indicator - the productivity of the dredger. Under the same conditions the dredging vessel's operating time can be reduced by increasing the concentration of soil in the slurry. For this purpose, a new technological scheme was developed. It was describedhow to use the schemefor two typical operational modes of the vessel.The first one describes the process of slurry extraction and transportation through a nearshore deflate pipeline, and the second one, when the extracted soil enters the cargo hold of the dredger.

Keyword:concentration of water in a slurry, dredger, separation unit, new dredging technological scheme.

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33.

Authors: **D. Parameswari, V. Khanaa**

Paper Title: **Network Based Intrusion Detection System using Protocol Standardization Techniques**

Abstract:The IDS system identifies the anomaly device which connected in the network communication process through evaluating the MAC address compared with the registered list of devices. In completion, this research work ensures that all the devices which are involved in the network communications are authenticated and secured, which increases the security of the network and prevents the intruder. This research work attempts to increase the quality of service of network communication, ensuring error-free communication through monitoring the network.

Keyword:IDS, ICMP, MAC

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34.

Authors: **Aceng Abdul Hamid, Arifin Siagian, A. Razak, Endri Endri**

Paper Title: **Determinants of Bond Rating and its Implications to Corporate Bond Yield**

Abstract:Identifying the factors that affect bond ratings is important in relation to investment decisions in long-term debt securities because they have an impact on corporate bonds. The research objective is to analyze the factors that influence bond ratings and their implications for corporate bond yields, both partially and simultaneously. This study uses a logistic regression model to estimate the determinants of corporate bond ratings and a panel data regression model to estimate the implications for corporate bond yields, by taking samples of corporate bonds listed on the Indonesia Stock Exchange (IDX) during the 2012-2016 period with a number of samples research with as many as 36 corporate bonds. Based on the results of the study, using the logistic regression method, the following research findings were obtained: company size, liquidity, leverage and profitability simultaneously affected bond ratings with a contribution of 33.62% (R2). In addition, the size and liquidity of the company have a positive and significant effect on bond ratings. While the results of the panel data regression analysis, it was found that company size, liquidity, leverage, profitability and bond rating simultaneously affected bond yields with a contribution of 70.4% (R2) while 29.6% was influenced by other variables. In addition, the size and leverage of the company has a negative and significant effect on the yield of corporate bonds. This study also shows that the larger the size of the company, the less sensitive the changes in bond yields and vice versa, the smaller the size of the company, the more sensitive it is to changes in corporate bond yields.

Keyword:bond rating, corporate bond yield, logistic regression, panel data regression

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Authors: **Sathuluri Mallikharjuna Rao, G. Sasikala**

Paper Title: **Reconfigurable Antenna using Micromechanical Actuation Switches for K and Ku-Band Applications**

Abstract:In this paper, we have proposed a reconfigurable antenna using micro mechanical actuation switches for K and Ku-band applications. Overall two identical cantilever micro mechanical switches (S1 & S2) are used to design reconfigurable patch antenna. The switches are working by electrostatic actuation mechanism. With the switches, overall the antenna is offering four resonant frequencies based on the switches ON/OFF condition. The Micro mechanical switches are offering an isolation loss of -18.5dB and an insertion loss of -1dB. The switch requires a DC actuation voltages of 6V. The Proposed reconfigurable antenna is resonating at four different frequencies based on the different switching conditions of RF MEMS switches. If S1 & S2 both are ON the antenna is resonating at 16.9GHZ, if S1 -ON & S2-OFF the antenna is resonating at 47.3GHZ & 59.1GHZ, if S1 -OFF & S2-ON the antenna is resonating at 28.4GHZ, if S1 -OFF & S2-OFF the antenna is resonating at 27.9GHZ

Keyword: Patch antenna, re-configurability, RF MEMS switch, PIN diode, FET, Polarization, bandwidth, gain, directivity.

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Authors: **Swati V. Kamble, Bhausaheb G. Kore**

Paper Title: **A New Method to Obtain an Initial Basic Feasible Solution of Transportation Problem with the Average Opportunity Cost Method**

Abstract:In this preset article, we have explained all new method to get Initial Basic Feasible solution (IBFS) of Transportation Problem (TP) with the Average Opportunity Cost Method (AOCM). It is very simple arithmetical and logical calculation.After finding the IBFS we use Modified Distribution Method (MODI) method to optimize the IBFS. Results obtained by using this method we found that IBFS of most of the transportation problem closer to optimal solution than using the other existing methods. We illustrate the same by suitable examples.

Keyword:AOCM, IBFS, MODI, Optimal Solution, TP.

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37.

Authors: **S. Sundar, C. Dhanasekaran, S. Sivaganesan**

Paper Title: **Green Supply Chain Management Optimization Based On NSGA-II Method**

Abstract:Green Supply Chain Management (GSCM) is the adopted by many companies due to the government policies of various countries. The optimization technique can be applied in the GSCM to increase the profit of the company. In this research, Non-dominated Sorting Genetic Algorithm-II (NSGA-II) technique is applied for the optimization of GSCM to increase the performance. The NSGA-II method has the advantage of choosing the solution closer to the pareto-solution and uses the elitist technique to preserve the best solution in the next generation. Mathematical model of the GSCM system is established and data is provided as input to the mathematical mode. Data is generated in three types, small scale, medium scale and large scale. The proposed NSGA-II method has high performance in the optimization technique compared to existing method. The proposed NSGA-II method has the Number of Pareto Solution (NPS) metrics of 17 for large scale data, while existing method has 14.

Keyword: Green Supply Chain Management, Non-dominated Sorting Genetic Algorithm -II, Elitist technique, Mathematical model, and Number of Pareto Solution.

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38.

Authors:	**Husain Abdulaal, Muneer Mohammed Saeed Al Mubarak**
Paper Title:	**The Effect of Technology-Based Applications on Brand Image in the Telecommunications Industry**

Abstract:The paper investigates the effect of technology-based applications on brand image in the telecommunications industry. The study aims to identify the most influencing technology-based application on brand image and areas of improvements for each application. The study proposes a model that shows the effect of certain applications on brand image in the telecommunications industry. A quantitative survey was used for data collection to support the model. The research shows a significant overall model where technology-based applications account for 28% of variance in the consumer's perception of the brand image. Websites and social media applications have significant impact on brand image while mobile applications & services have positive but insignificant impact on brand image. The paper can help companies to adopt technology-based applications in their brand management strategies and invest more on technology-based channels to enhance the brand image, attract more customers, and gain competitive advantage. There has been little research focusing on the effect of technology-based applications on the brand image and specifically in the telecommunications industry.

Keyword: Brands, Brand image, Technology-based applications, Websites, Mobile applications, Social media applications.

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39.

Authors: **Made Suangga, Rayner Gunawan, Irpan Hidayat**

Paper Title: **Determination of Cable Tension Force uUsing Accelerometer**

Abstract:Cable is the main element in a long span structure and is often used for special structures such as long span bridges, roofs and other structures that require a long span. The stiffness of the cable is determined by the amount of axial tensile force acting on the cable, and hence, the magnitude of the actual tensile force on the cable is an important factor to be determined and monitored. One simple method for determining the actual tensile force on a cable is to calculate the tensile force from the first natural frequency of the cable. However, it is important to ensure that the formulas used to calculate the tensile force are accurate. This research aims to determine the level of accuracy and the factors that influence the accuracy of the formula to determine the tension force of the cable from the natural frequency value of the cable. The methodology used in this research project was by applying free vibrations to the cable with given axial tensile load and measuring the acceleration that occurred with an accelerometer sensor. By using Fast Fourier Transform (FFT), the natural frequency value of the cable can be calculated and the actual tensile strength in the cable can be determined.From the experiment conducted, it was found that the length of the cable affects the accuracy of the measurement of the natural frequency and the magnitude of tensile force of the cable. The strain that occurs on the cable plays a very important role to the accuracy of the formulas used.

Keyword:accelerometer, cable, natural frequency, tension force.

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40.

Authors: **Roman A. Vaganov, Fedor A. Buryukin, Svetlana S. Kositcyna, Maksim V. Zhukov**

Paper Title: **Development of the Packer and its Application for Fixing Production Casing Leaks of Oil and Gas Wells**

Abstract: A large number of oil and gas wells at the late stage of operation are characterized by high and constantly increasing water cut of the extracted product. One of the reasons for the high water cut is the presence of production casing leaks. The occurrence of production casing leaks is connected both with the quality of primary cementing and various operating conditions of wells. To solve this problem, different technologies are applied with the use of plug-back mixtures and technical means, each of which has its own advantages and disadvantages as well as its own application area. In particular, the packers of various structures are widely used. Among the many options, the retrievable packers benefit in the market even in the case of their relatively high costs due to their easy removal and reuse. The article presents the results of the work on the development of a new structure of the retrievable packer with cable termination glands and hydraulic opening system in the well. The structure of the retrievable packer was tested in the laboratory conditions with the use of a purpose-designed test rig and in the field environment. The designed stand for testing individual structural units and the packer as a whole is a casing string simulator in which the test packer is placed. The stand is equipped with a hydraulic cylinder to simulate the movement of the packer, hydrostations to simulate hydraulic loads on the packer and breakthrough fluid from the leakage of the production string, circulation pumps to simulate circulation pumping

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through the packer. Field tests were carried out at one of the fields in Eastern Siberia, Russian Federation, at wells with very high water cuts. Full compliance with the claimed requirements concerning the reliability of operation of mechanisms and well plugging of the leak interval was shown. Besides that, the advantage of the packer is the possibility of communication between spaces above and below the packer. At the same time, the possibility of technological washing, acid treatment, killing and other technological operations is preserved. The use of packer during repair and insulation works in wells has made it possible to reduce the duration of works on the average by 2.5 times.

Keyword: Retrievable packer, mechanical water shut-off, test rig, field tests, experimental study.

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Authors: **K.V.B.V Rayudu, D R Jahagirdar, P Srihari Rao**

Paper Title: **Application of PODEM Algorithm for Fault Detection and Location in FinFet based Combinational VLSI Circuits**

Abstract:FinFet transistors are used in major semiconductor organizations and a significant role is played by it in developing the silicon industries. Due to few embedded memories and other circuit issues the transistors have specific faults in manufacturing, designing of the circuit etc. This paper presents an advanced test algorithm to diagnose those faults. The circuit with different gates is designed to identify the places having faults. In addition, different algorithms such as PODEM (Path Oriented Decision Making algorithms) are used to find the fault detection and location. The Furthermore, more complicated circuits are analyzed for fault detection with different approach. In this research work Combinational Circuits are designed using 20nm/32nm technology nodes in LT Spice environment and PODEM Algorithm is implemented which is developed in MATLAB, to detect and identify fault location and sensitive test vector to detect fault in the circuit and results are presented..

Keyword: Fin Fet transistors, Fault analysis, Transfer characteristics. , PODEM Algorithm, Fault Diagnosis, Fault Detection.

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42.	**Authors:**	**Seyed Amin Ahmadi Olounabadi, Avula Damodaram, V Kamakshi Prasad, PVS Srinivas**
	Paper Title:	**Congestion Control Through EDA with Shortest Path**

Abstract: Ad hoc mobile networks contain remote nodes linking through electronic media, without any set backend facilities. Disturbance happens in any type of intermediate nodes in these networks when data packages travel from resource to destination, leading to high package loss and also lengthy delay, triggering network efficiency destruction. This paper presents EDAODV congestion and also command directing protocol for mobile ad-hoc networks. Via determining line position and also identifying congestion degrees, EDAODV senses node-level blockage. Based on blockage rates, EDAODV makes use of the uncongested precursor and successor nodes of an overloaded node as well as starts bi-directional processes to determine alternative, uncongested courses in between them for data transmission. The algorithm discovers a lot more non-congested remedies, picking the very best solitary course for data transmission.

Keyword: Congestion, EDA, EDAODV, Mobile Networks.

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43.

Authors: **A. Ibrahim, K. Jeya Lekshmi**

Paper Title: **Intuitionistic Fuzzy Pseudo-Boolean Implicative Filters of Lattice Pseudo-Wajsberg Algebras**

Abstract:In this paper, we introduce the notion of an intuitionistic fuzzy pseudo-Boolean implicative filter of lattice pseudo-Wajsberg algebra (LPWA) and to investigate some properties with illustrations.

Keyword: Pseudo-Boolean implicative filter; Fuzzy pseudo-Boolean implicative filter; Intuitionistic Fuzzy pseudo-Boolean implicative filter; Lattice pseudo-Wajsberg algebra(LPWA)

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44.

Authors: **Srinivas. D, S. Ramamurthy, Juhi Ansari**

Paper Title: **Forced Convection upon Heat Sink of AL-Cu for Design Optimization by Experimental and CFD Analysis for Cooling of ICs in CPU**

Abstract:A heat sink device is used with specific power input at 100V and 20W by the heater attached at the base plate of copper and then obtaining the average temperature of Heat sink by the help of 10 thermocouples .Two specimens of heat sinks were designed and were tested for mass flow rate and heat transfer coefficient. With base of 1.5mm&2.5mmtip thickness and another specimen with dimensions as tip0.5mm and1.00mmbase thickness are used By experimenting and CFD simulations,optimization of heat sink design was done.Then correlation and Validation foe both the specimen was done and were found satisfactory results.

Keyword: Base plate,Cooling fan, CFD simulation, Heat sink, Heat dissipation, IC's ,Fin configuration, Thermocouples.

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45.

Authors: **Laxman Singh, Sunil Kumar Chaudhary, Yogesh Kumar Verma, Jay Kant Pratap Singh Yadav, Rajeev Kumar**

Paper Title: **Smart Volume Controller for Mobile Phones**

Abstract:In this paper, smart volume controller (SVC) using fuzzy logic is developed for mobile phones in order to improve the voice quality in the presence of background noise. The SVC uses the noise level and class information as an input to automatically raise the volume of the cell phone in the presence of background noise. Smart volume controller mainly consists of two stages: (i) Noise Classification, (ii) Fuzzy Volume Controller. Noise classification includes feature extraction and feature matching using artificial neural network classifier to differentiate between different types of noise classes. The maximum noise attenuation level of up to 55db was achieved while experimenting with the four different types of noises such as car noise, market noise, office noise, and train noise using the proposed volume controller that seems to be quite satisfactory.

Keyword: Smart volume controller, Mel frequency Cepstral coefficients, linear predictive coefficients, Real cepstral parameter coefficients.

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46.

Authors: **Son Nguyen Van, Duc Trinh Quang, Giang Nguyen Hoai, Quynh Nguyen Thi Huong, Khanh Pham Xuan**

Paper Title: **Software Design Collection and Handling of Signal Sound Body**

Abstract: We demonstrate the designed software that possibly collects the body sound data to be used for clinical diagnosis applications. Body sound signals are collected and processed through a software designed in Labview to adapt with Arduino-Uno. The analog signals transduced from a piezoelectric microphone are converted to the digital signals by an ADC component integrated in the Uno board and controlled the sampling frequency via the software. The collected signals are observed and visualized in graph panel of the software and the audio sound can play through speakers in real-time then stored the measured values as the audio file format simultaneously. The data can use to analyze by another software or study the analyzed algorithm to extract the disease signals. To evaluate the quality of the system, a series of experiments were examined in hospital environment and asserted with clinical experiences of specified medical doctors. To enhance the scope of the disease signal, the spectrum of the signal can be collected ranged on 5 Hz to 35 kHz corresponding to the full spectrum of the hardware system, with the sampling frequency reached to 100 kHz. Based on this initial system, a series of development applying to clinical diagnosis can be potentially opened in the near future.

Keyword: Digital Stethoscope, Body sound, Labview, signal processing.

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47.

Authors: **Ahmed E. Zakzouk, Ragab M. Elbakar, and Mohamed I. Yousef**

Paper Title: **Bit Error Rate (BER) Performance of MIMO Systems in M-QAM with Nonlinear Effect**

Abstract:Out object in this paper it to study, the effect of nonlinearity on the bit error rate (BER) of MIMO systems in M-QAM modulation techniques. We consider Saleh's model (power amplifier model) for the nonlinearity, and apply the nonlinear model on MIMO system with receiver diversity and transmitter diversity. For transmitter diversity, the Space-Time Block Coding (STBC) based on Alamouti scheme is used to provide transmits diversity for two transmitting antennas. The results show that, if there is a high variation in the amplitude of the M- QAM symbols, there will behigh effect of nonlinearity that causes high BER especially for high amplitude symbols at high SNR.

Keyword: Bit Error Rate, MIMO systems, Nonlinear Effect, Space-Time Block Coding.

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48.

Authors: **Bharat Naresh Bansal, Vivek Garg**

Paper Title: **Development of Message Queuing Telemetry Transport (MQTT) based Vehicle Accident Notification System**

Abstract:In the recent years there has been a tremendous growth in the field of engineering and sciences, which aided in the growth and development of fast and comfortable transportation media, with this development the number of automobiles have drastically increased, which for sure is a great technological achievement but sadly with this growth, the traffic and the hustle and bustle on roads is unstoppable and with it the number of accidents and road casualties have tremendously increased. But, there is no easy and practical way to reduce the usage of the automobiles. Every day the mankind read about thousands of people dying of road casualties and most of them die because the families or the concerned ones of the indulged people are not timely informed. The death casualties can be minimized to a great extent by just timely informing the families of the concerned ones. The prototype in this paper is an accident notification systemESP8266 NodeMCU and a simple vibration sensor is the heart of this system. The vibration sensor continuously senses the vibrations and on exceeding a predefined threshold limit, sends out a notification to registered numbers.In the past similar models have been proposed, which used costlier sensors such as Accelerometerbut the design in this paper, used simpler and cheaper sensor. Moreover, in earlier designs GSM technology was used but proposed design uses a Wi-Fi based controller, which in comparison to GSM technology is more reliable and fast. Also earlier GSM module needed an additional microcontroller such as Arduino but the use of NodeMCU eliminates the requirement of any additional controller. The prototype system in this paper makes the use of message queuing telemetry transport (MQTT) protocol, which is a very reliable and fast communication protocol which further uses subscribe and publish technology. The IoT cloud platform used in this prototype is Adafruit IO which is quite simpler when compared to other cloud platforms such as Losant Platform and moreover the data is updated every two seconds in Adafruit IO. For the notification purpose protocol is used with the help of IFTTT platform and ClickSend platform, Applets and Triggers are created to fulfill the requirement.The controller is programed using basic C and C++ programming languages and Arduino IDE serves as the programming environment, various library files have also been used for the programming purposes.

Keyword: IoT; Mqtt; Accident; Adafruit-IO; ClickSend; IFTTT; Notification.

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49.

Authors: **Sowparnika G C, Thirumarimurugan M, Vinoth N**

Paper Title: **A Critique on Baroreceptor and their Effective Reflex Action on Compartmental Cardiovascular Modeling in Regulating Hemodynamic Parameters**

Abstract:Baroreceptor is the feedback unit present in the living beings which acts as a sensor that is located in the walls of blood vessels. This sensor senses the deformation in the blood vessels which causes change in arterial blood pressure and regulates it via Central Nervous System (CNS) and the information are autonomic reflexes that has a great influence on circulatory system elements such as peripheral systemic resistance (Rpsym), contractility of the ventricles (Emax), unstressed volume of the ventricles (Vus_ven) and heart rate (HR). The dynamic behaviour of the baroreceptor is modeled and substantiated by applying the negative feedback mechanism. A detailed modeling and simulation study is presented considering various testing

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conditions in regulating the circulatory system elements which oversees the Mean Arterial Pressure (MAP) in cardiovascular system. The Total Artificial Cardiovascular model (TAH-CVS) is also developed using pressure, volume and flow related differential equations. Based on the testing conducted under various conditions, the feedback-mechanism of the baroreceptor model is combined with the continuous TAH-CVS closed loop model to validate the effectiveness of the baroreceptor model. The simulation results of TAH-CVS model at initial conditions are compared with the TAH-CVS model with baroreceptor

Keyword: Circulatory system, closed loop, hear, feedback, nerve activity, testing.

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	Authors:	**A.R.Visagan, M.Sumathi, G.Sujatha**
	Paper Title:	**Svs: Prediction Framework for Software Quality Enhancement through Data Mining Techniques**

50.

Abstract:Software Engineering has its origins in tackling the issue of development and maintenance of quality software. Software Quality has been defined in multiple ways but the broadest definition is that quality is the extent to which the customer is satisfied with the developed software. Data mining has the prospects of being applied to multiple domains and addressing the long standing issues faced by them. It has been successfully applied to uncover solutions to complex problems that have long confronted these domains. The proposed research is a step in the direction. It will attempt to apply existing data mining algorithms to data accumulated by software organizations in an attempt to extract useful patterns that can go a long way in addressing the issue of software quality. This work proposed Spacious Virtue Suggestion (SVS) Model for analyzing code based quality in software quality model. The first layer of this model is Extraction Layer that extracts the various attributes of software code used. After the extraction of the metrics attributes are constructed as a vector is considered as the feature vector for the second layer of the SVS Model. The second layer of the SVS model is Selection Layer which employs feature selection strategy to obtain significant metrics attributes for the software quality prediction by reducing the overlapping metrics attributes from the vector... The third layer of SVS Model is Prediction Layer which predict the good class from the training set and result shows the high accuracy in the proposed system.

Keyword: Software Engineering, Software Quality Evaluation, Software Code Metrics, Spacious Virtue Suggestion, SVS Model, Artificial Intelligence, Metrics Selection, Machine Learning.

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51.	**Authors:**	**P. Dhatri Shree, M. Ajay Kumar, M. Sai Charan, S. Koteswara Rao, Kausar Jahan**	
	Paper Title:	**Tracking a Maneuvering Target using AUV**	

Abstract:In this paper effort is made to track a maneuvering target using Unmanned Aerial Vehicles (UAV) with range, bearing and elevation measurements. Extended Kalman filter is preferred to processmeasurements tampered with noise. Algorithm to detect the maneuver of target is developed in this paper. This information about range, bearing and elevation is communicated to weapon guidance station by means of personal communication system between UAV and weapon guidance station. Mathematical modeling in detail and simulation results is presented.

Keyword: Estimation, Extended Kalman Filter, Maneuvering Target Motion Analysis, Three-Dimensional tracking, Unmanned aerial vehicle.

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52.	**Authors:**	**Faisal Faisal, Gede Putra Kusuma**
	Paper Title:	**REST Architecture Optimization in Cloud Computing Ecosystem to Support E-Learning Platform**

Abstract:This study will present an application design process in the style of Representational State Transfer (REST) architecture to support the E-Learning platform in the cloud computing ecosystem. An application optimization process will be presented to provide E-Learning applications for schools, faculties or universities that in most cases need manual deployment and require more time for server provisioning.This process is optimized by providing application solutions that can provide speed of provisioning.The core system used Kubernetes containerization technology to provide scalability of growing E-Learning tenants. Evaluation of the core system architecture uses the Architecture Trade-off Analysis Method (ATAM) to evaluate aspect of performance and scalability as quality attributes. From the experimentalresults, the process of making new tenants for schools requires an average time of around 173.4 seconds. This meets the expectations of the set time limit of 5 minutes. The results of stress tests for 250 concurrent users show that the system has availability above 98%.Thus,education stakeholders such as schools and universities, no longer need to provide expensive e-learning infrastructure in the form of hardware or manpower to deploy the e-learning application on premise. In the future, this solution will provide a scalable E-Learning system that can spread at scale on the cloud computing ecosystem and support a Software as a Service solution in educational technology.

Keyword: Cloud Computing, E-Learning, Moodle, Kubernetes, REST.

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Authors:	**Sujan Neroula, Santanu Sharma**	
Paper Title:	**Design and Analysis of DYC and Torque Vectoring using Multiple-Frequency Control Electronic Differential in an Independent Rear Wheel Driven Electric Vehicle**	

Abstract:Electric vehicle (EV) are being embraced in recent times as they run on clean fuel, zero tail emission and are environment-friendly. Recent advancements in the field of power electronics and control strategies have made it possible to the advent in the vehicle dynamics, efficiency and range. This paper presents a design for traction control system (TCS) for longitudinal stability and Direct Yaw Control (DYC) for lateral stability simultaneous. The TCS and DYC is based on multiple frequency controlled electronic differential with a simple and effective approach. Along with it, some overviews have been presented on some state of the art in traction control system (TCS) and torque vectoring. The developed technique reduces nonlinearity, multisensory interfacing complexity and response time of the system. This torque and yaw correction strategy can be implemented alongside fuzzy control, sliding mode or neural network based controller. The effectiveness of the control method has been validated using a lightweight neighbourhood electric vehicle as a test platform. The acquired results confirm the versatility of proposed design and can be implemented in any DC motor based TCS/DYC.

Keyword: Direct yaw-moment control, electric vehicle, Traction control, vehicle stability, electronic differential.

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Authors: **Sayan Ghosh, Dipshikha Sarkar, Lokenath Basu, S.R. Rajeswari**

Paper Title: **Determining the Most Popular Streaming Service using Machine Learning**

Abstract:Over the past years, twitter has become a popular medium for sharing views and ideas about personalities, brands, products or services. Analyzing sentiment of people to figure out the popularity of different streaming service by the twitter profiles is helpful for determining positive or negative views. This is a comparative analysis to predict or show which of the chosen streaming services is most familiar or liked by the public. To do this, different machine learning algorithms are used to computationally identify and categorize public opinions to draw a final result. The machine learning algorithms used here are Linear SVC, Naïve Bayes and Decision Tree. These help in receiving the data and predict the output within an acceptable range. The data in this case has been extracted from Twitter using Twitter API. Twitter API takes the parameters that can access many features of Twitter and also post and find tweets containing desired words. This includes data cleaning which refers to exclude the incorrect and unnecessary forms of data. This makes the way of data processing easier, faster and more compatible. On analyzing, the frequently used words are assessed. The classifying words are trained using the above mentioned algorithms. These algorithms are the supervised classifiers which are effective and efficient when the quantity of the data is huge. Using one or more algorithms helps to decide, compare and contrast the results. Once the classifiers are trained, testing is done. Testing gives the proper assessment of the data that is required for the desired results. The performance of the test set can be checked to draw a final result. Hence, comparing the results obtained for different streaming services helps to decide the most popular streaming service.

Keyword: Linear SVC, Naïve Bayes, Decision Tree, Twitter, Twitter API

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6. VICTORIA IKORO, MARIA SHARMINA, KHALEEL MALIK and RIZA BATISTA-NAVARRO's 'Analyzing Sentiments Expressed on Twitter by UK Energy Company Consumers' in 2018 Fifth International Conference on Social Networks Analysis, Management and Security(SNAMS).
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55.

Authors: **Rajbala, Deepika Garg**

Paper Title: **Behaviour Analysis of Alloy Wheel Plant**

Abstract:In this paper, Behaviour Analysis of an Alloy Wheel Plant utilizing RPGT under specific conditions has been discussed. An Alloy Wheel Plant is isolated into five sub- systems P, Q, R, S and T for instances of computations. An Alloy Wheel Plant consists of five frame woks for example Gravity Die Machine (P), Cutting Machine (Q), Solutiuonizing Chamber Machine (R), Azing Chamber Machine(S) and Shot Blasting Machine (T). These subsystems are associated in arrangement. On the off chance that any of the sub units comes up short, at that point the Alloy Wheel plant works in diminished state. In the event that at least two sub units fall flat, at that point systems comes up short. Parametric estimations of a system generally rely upon failure / repair rate of

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individual units. Single server fixes all sub-units. Framework parameters, for example, Availability, MTSF and Number of Server's Visits utilizing RPGT are determined. Specific cases and behaviour analysis w.r.t different rates are additionally completed pursue by graphs.

Keyword: Availability, busy- period of repairman, Behaviour Analysis

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	Authors:	**Neha Sharma, Pradeep Kumar D, Rohit Kumar, Shiv Dutt Tripathi**
	Paper Title:	**Anomaly Detection in Human Behavior using Video Surveillance**

Abstract:Conventional static surveillance has proved to be quite ineffective as the huge number of cameras to keep an eye on most often outstrips the monitor's ability to do so. Furthermore, the amount of focus needed to constantly monitor the surveillance video cameras is often overbearing. The review paper focuses on solving the problem of anomaly detection in video sequence through semi-supervised techniques. Each video is defined as sequence of frames. The model is trained with goal to minimize the reconstruction error which later on is used to detect anomaly in the test sample videos. The model was trained and tested on most commonly used benchmarking dataset- Avenue dataset. Experiment results confirm that the model detects anomaly in a video with a reasonably good accuracy in presence of some noise in dataset.

Keyword:video surveillance, anomaly detection, semi-supervised learning, unusual activity, video processing, abnormal behavior.

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57.	**Authors:**	**R. Kannan R, V. Vasanthi**

	Paper Title:	**MRI Image Segmentation, Prediction and Diagnostic Accuracy: Deep Learning Framework and Machine Learning Techniques Analysis for Reducing The impact of Cardiac Diseases**	
	Abstract:Background: Usage of tele - monitoring system of electronic patient record (EHR) and magnetic reasoning is expected to increase rapidly in near future, yet numerous studies have examined cardiovascular risk prediction and statistic adoptive approach could improve clinical risk prediction.Objectives: To assess the performance outcomes of various techniques for predicting the risk of cardiovascular diseases and MRI image segmentation method on the basis of systematic review.Research Design: Retrospective Cardiovascular study. We associate UCI dataset, AHA dataset, real time patient datasets, hospital dataset and sunny broken dataset from 2017 to 2019, and predicted risk using the logistic regression, stochastic gradient boosted, random forest, SVM, ROC Curve, KNN algorithm, MXNET UNET.Measures: The proposed methods have been developed in four categories to accurately diagnose cardiovascular diseases. We assessed to analyze and compared the accuracy of four different machine learning algorithms with the ROC for assessing and diagnosing cardiovascular disease from UCI cardiac datasets. The research will then focus on to predict heart diseases automatically by segmenting and classifying the patients' heart data in real- time with the help of machine learning algorithms, big data, wireless heart monitor and smart phones. We further improve the prediction accuracy by using logistic regression and ROC Curve to improve the prediction performance. Consequently, K-Nearest-Neighbor (KNN) method, R programming language and big data where applied to easily find the nearest hospitals, monitor and provide on-time visualization to the medical professionals. Finally, we propose automatic myocardial segmentation method for cardiac MRI on the basis of Deep Convolutional neural network.Results: Logistic Regression methods outperformed the standard accuracy rate even with application of ROC curve (AUC increased from 87% to 91%). Ever better performance was achieved in Models using additional Real time dataset attributes (AUC increased to 93% and KNN achieved approximately 83%). Proposed image segmentation method results tended using following techniques, Jaccard (0.6 ± 0.1 mean accuracy Dice's value) outplays the dices co efficient (0.58 ± 0.1 mean accuracy Dice's value) CCN reaches the value of the 0.9 (Table 7) and for the dice's co-efficient respectively that can be compared to manual segmentation. The accuracy tended to decline while PM (Papillary muscles) we got 0.89 for the dice's coefficient and mean squared error 0.01. Conclusions: The tele - monitoring system plays the important role for cardiovascular patients and the healthcare industry. Moreover, cardiac image classification demands a high level of expertise and significant time consumption on the part of the operator. Multicenter sufficiently powered and randomized controlled trials are needed to assess the potential benefits and cost-effectiveness of this intervention. Subsequently, our findings of image classification method will facilitate more advanced discovery.	**333-342**
	Keyword: Machine learning, Deep learning, logistic regression, KNN algorithm, ROC Curve, Convolutional neural network, Heart disease.		
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58.	**Authors:**	**Nisrutha**	
	Paper Title:	**An Empirical Analysis Of Gender Role Stereotype Both At Work Place And Home**	
	Abstract:Gender and Gender stereotyping plays an influential role in one's personal and professional career too. The article tries to explore how gender effects gender stereotyping at both work place and home. The data had been collected from 100 faculty members from private universities located in Odisha, province of India through	**343-349**

a questionnaire. Stratified random sampling technique was used for selecting respondents. Descriptive statistical methods are used for demographic data of the respondents. Cross tabulation is used to test the association between home stereotype score and workplace stereotype score. Statistical package for social sciences software is used for statistical analysis of the data. Results indicate that gender stereotyping still exists in the people with higher qualification also. The effect of gender stereotyping will be seen both at personal life and professional life. The people with no gender differentiation are more supportive than people with gender stereotyping.

Keyword: About Gender, Gender stereotype, Supportive.

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Authors:	**Taskeen Fathima, S. Mary Vennila**	
Paper Title:	**An Improved Mechanism for SDN Flow Space to Control Oriented Authentication NAA Network**	

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Abstract:The Open Daylight platform with its power by working with IEEE 802.1X port level authentication for wired and wireless networks has been very supportive because of the massive deployments at mean charge for main design considerations. Within the current marketplace, 802.1X has flourished the ground works for wireless, wire stability, LAN stability and authentication methods. EAP (Extensible Authentication Protocol) supports long time protection of the supplicant and the authentication software till the end condition of the RADIUS (Remote Authentication Dial-In User Service) server is met. This paper is focused on the RAR (RADIUS Access Request) unique identification about the users on the network with SAA (Supplicant, Authenticator and Authentication server) system which records on the attribute cost of RFC 2865 according to the forwarding server. NAA (Non-Adaptive Algorithm) using FlowVisor based virtualization packages drive inward the network timescales or statistics, dynamically controlling the flow space of switches to control the speed and results in scaling of networks. NAA is an application level protocol that contains authentication and configuration information between a Network Access Server and a shared authentication server. It avoids the attacker from listening for requests and responses from the server and calculates the improved MD5 client secret key of the response.

Keyword: Software Defined Networking, Non Adaptive Algorithm, 802.1X, FlowVisor, Flow space, Radius Access Request.

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60.

Authors: **LokeshVenkata Sai Mamidi, Pisupati Chaitanya, VikasUpadhyaya**

Paper Title: **Application of Image Processing In E-Commerce**

Abstract:The advancement and perpetual development in technology have made it possible to automate many processes. The proposed Algorithm in this research provides the framework to self-operate the process of quantifying the shoulder size of humans by taking the images of the user so that it can be utilized to find the shirt size of the human. The framework involves three important phases which are segmentation, edge detection, predicting shirt size. Since colour has no prominent role in measurement of size,otsu's binary thresholding for image segmentation is used in order to get binary image which separates foreground and background. Along with predictive analysis particularly regression is used as the groundwork to predict shirt size. The main application is in the apparel industry such as online shopping to automate the size detection for more expeditious results. And in the custom made apparel stitching, rather than approaching the seamster to take tape measurements our framework can be implemented therefore increasing the time efficiency.

Keyword: Image processing, application of data analysis, Otsu segmentation, measurement of a body part, Regression.

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Authors: **Shubhangi Gond, Bhavna Ambudkar, Afzal Ali Syed**

Paper Title: **Timely use of Technology to Reduce Perpetuate Stress Impacts**

Abstract:Stress has become a common thing in today's life. Because of the fast pace, it is a top health concern. Psychologists say that if they don't learn healthy ways to manage stress now, it could have serious long-term health implications, such as depression, anxiety, high blood pressure, diabetes. Currently people are suffering from stress issues everywhere. Since last few decades stress has been detected in most of the people and there has been recorded severely increasing effect of stress on human body. Stress can alter complete health which leads to reducing the tolerating power of the human. In metro cities this condition is more severe. Hence it is necessary to identify stress before it causes any serious harm and treat on it. In this project we are presenting stress detection technique and lower it with the help of Music therapy. As there are many benefits of music so by taking advantage of it we are minimizing stress level to normal state. Detection of stress using brainwaves is a

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non-invasive method. We have selected 42 students who were about to go for their exam. Firstly we have recorded brainwaves before they were going to exam, then immediately after finishing their exam we have recorded brainwaves lastly they were allowed to listen to their favorite music and then recorded their brainwaves. From analysis it is clear that stressed brainwave were reduced to 29% by listening music.

Keyword: Brainwaves, stress, music impacts, stress relief.

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	Authors:	**Manoj L, Nithesh J, Manjunath T, Gowreesh S S**
	Paper Title:	**Power Generation using Magnetic Levitation Vertical Axis Wind Turbine**

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Abstract:The main aim of the paper is to design a windmill that operates without generator and ball bearings and to get maximum power output. The use of wind energy for energy generation is one of the oldest methods for harnessing renewable energy. Use of renewable energy is an essential ingredient of socio-economic development and economic growth. A vertical axis wind turbine (VAWT) is introduced by magnetic levitation technology to optimize the performance. The system utilizes the nature of permanent magnet as a replacement for ball bearings to levitate the turbine component and thus minimize energy losses while rotating, which is the major problem that furthermore, the system can be suited by conventional wind turbine. The Maglev Wind Turbine is expected to bring wind power technology to the next level. Furthermore, the system can be suited in use for more rural and urban areas of low speed regions. The selection of magnet materials in the design of wind turbine system will be discussed. Power will then be generated with an axial flux generator, which incorporates the use of permanent magnets and a set of coils.

Keyword:VAWT, Magnetic Levitation, Wind Turbine, Blade hub, Magnet.

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	of Engineering Research and Application (IJERA), in Nov-2015		
63.	**Authors:**	**Thomas P, Sreehari VM**	
	Paper Title:	**Vibration Characteristics of Composite Beam Having Flax, Aloevera and Sisal Fibers as Reinforcements**	
	Abstract:Composites are highly significant due to their various advantages and natural fibre reinforced composites can be vastly used in automobile and aircraft interior applications. This paper principally deals with natural fibre reinforced composite (NFC) in which flax, aloevera, sisal fibres are selected to be reinforced in epoxy matrix (as inner laminate layers) and is used in combination with glass-epoxy (as outer laminate layers). Such composite beam structures are analysed in Ansys software employing FEM. The comparison for various NFCs is presented by evaluating effect on natural frequency due to various parametric variations like laminate stacking sequence, material hybridization, and presence of cut out. **Keyword:**Cut out, Dynamic analysis, Finite element analysis, Natural fibre composites. **References:** 1. M. F. M. Alkbir, S. M. Sapuan, A. A. Nuraini, M. R. Ishak, "Fibre properties and crashworthiness parameters of natural fibre-reinforced composite structure: A literature review," Composite Structures, vol. 148, 2016, pp. 59-73. 2. T. G. Yashas Gowda, M. R. Sanjay, K. Subrahmanya Bhat, P. Madhu, P. Senthamaraikannan and B. Yogesha | Duc Pham (Reviewing Editor), "Polymer matrix-natural fiber composites: An overview," Cogent Engineering, vol. 5, 2018. 3. P. Peças, H. Carvalho, H. Salman, M. Leite, Natural fibre composites and their applications: A review. J. Compos. Sci. 2018, 2, 66. 4. Shuai Li, Tengteng Zheng, Qi Li, Yingcheng Hu, Bing Wang, Flexural and energy absorption properties of natural-fiber reinforced composites with a novel fabrication technique, Composites Communications, Volume 16, 2019, Pages 124-131. 5. Jin Zhang, Akbar Afaghi Khatibi, Erwan Castanet, Thomas Baum, Zahra Komeily-Nia, Philippe Vroman, Xungai Wang, Effect of natural fibre reinforcement on the sound and vibration damping properties of bio-composites compression moulded by nonwoven mats, Composites Communications, vol. 13, 2019, pp. 12-17. 6. Kin-tak Lau, Pui-yan Hung, Min-Hao Zhu, David Hui, Properties of natural fibre composites for structural engineering applications, Composites Part B: Engineering, vol. 136, 2018, pp. 222-233. 7. D. Aravind Kumar, G. Gokul Raj, G. Shivaani, V. M. Sreehari, Structural analysis of aircraft wings made of natural fiber reinforced composites, International Journal of Mechanical Engineering and Technology, vol. 9, 2018, pp. 1262-1268. 8. C. M. Meenakshi, Jeeva Bharathi, S. Karthikeyan, Experiment work on the effect of hygrothermal environment on the mechanical behaviour of natural fiber reinforced epoxy composites, International Journal of Engineering and Advanced Technology, vol. 8, 2019. 9. V. Ramesh, P. Anand, Evaluation on impact strength of basalt/kevlar fiber reinforced hybrid composite, International Journal of Engineering and Advanced Technology, vol. 9, 2019. 10. Guravtar Singh Mann, Lakhwinder Pal Singh, Pramod Kumar, Effect of Volume Fraction and Heating Temperature on Hybrid Natural Fibre Composites Developed Through the Die Moulding Process, International Journal of Engineering and Advanced Technology, vol. 9, 2019. 11. P. Thomas, M. P. Jenarthanan, and V. M. Sreehari, Free vibration analysis of a composite reinforced with aloevera fibres employing finite element and experimental techniques, Journal of Natural Fibres, Published Online (2018). 12. M. Rajesh, P. Jeyaraj, N. Rajini, Free vibration characteristics of banana/sisal natural fibres reinforced hybrid polymer composite beam. Procedia Eng, vol. 144, 2016, pp. 1055-1059.	**370-373**
64.	**Authors:**	**Saranya S, Kanniyappan S.P, Faizuneesa A, Dhilip Kumar R.G**	
	Paper Title:	**Strength and Durability Performance of Ferrocement Panels with the Influence of Corrosion Inhibitor**	
	Abstract:Success of Ferrocement, as with other construction material, depends largely upon its durability. ACI-549R strongly recommends that studies be undertaken to suggest durable and long-term anti-corrosion techniques to prevent penetration of water and salts that could lead to the corrosion of reinforcing wire mesh. The main objective of this study is to develop a durable Ferrocement panel by incorporating corrosion inhibitors as admixtures. The inhibitor used is sodium nitrate based inhibitor. Totally 24 Ferrocement panels are subjected to strength and durability study to ascertain the influence of inhibitor modification in cement mortar. Inhibitor admixed mortar offers marginally improved resistance against water absorption irrespective of tested dosage levels as compared to control mortar. There is a appreciable reduction in current development in the order of 18% for inhibitor admixed mortar as compared to control mortar, which is an indication of improved resistance against chloride penetration. Half-cell potential readings on galvanized Ferrocement panels should not be interpreted for corrosion probability as per ASTM C876. Ferrocement panels with crimped wire mesh and inhibitor modification offered low corrosion risk at the end of test period as per ASTM C876. There is an improvement in ultimate load carrying capacity for galvanized mesh Ferrocement panels of the order of 11-16% upon inhibitor modification in mortar. Similar ultimate load carrying capacity for crimped wire mesh Ferrocement panels for control and inhibitor modified mortar. Ductile behavior associated with multiple crack formation before failure is observed for all tested panels. It can be concluded that crimped wire mesh panel Ferrocement panels offered appreciable stiffness, load carrying capacity and ductility as compared to galvanized mesh Ferrocement panel. Inhibitor incorporation appreciably improves the durable performance of Ferrocement panels. **Keyword:**Ferrocement, Crimped wire mesh, Galvanized mesh, Half-cell potential, Stiffness. **References:** 1. M.S Mathews, J. Sudhakar, P. Jayashree (1993) "Durability studies on ferrocement" Journal of Ferrocement, vol 23, No.1. 2. R.U.Halwatura, M.T.R. Jayasinghe (2008), "Thermal performance of insulated roof slabs in tropical climates", Energy and	**374-383**

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12. ASTM C642-06,"Standard Test Method for Density, Absorption, and Voids in Hardened Concrete"

65.

Authors: **Ju Yong Cho, Ho Seob Kim, Won Kweon Jang**

Paper Title: **Optimization of Arrangement of LED on the PCB for High Power LED Module**

Abstract:LED operating under high-temperature condition badly affects reliability. To reduce junction temperature of LED is crucial. In this paper, luminous intensity and photo conversion efficient with respect to electrical power are discussed. Moreover, three arrangements for LED module are suggested, and design parameters are discussed in terms of the number of LEDs and distance between each LED. In order to evaluate thermal performance of designed the module, computer simulation was conducted. Distance between each LED is selected by 7.6, 9.6, and 13.3mm for 80, 128, and 240 LEDs, respectively and unit heat flux is calculated to be 0.47W/mm2, 0.29W/mm2, 0.16W/mm2 for 80, 128, and 240 LEDs, respectively. In this case, Maximum temperature on the PCB was 67.8□ C, 62.5□ C, and 57.1□ C for 80, 128, and 240 LEDs, respectively. The Maximum temperature and unit heat flux was reduced by 15.7% and 66%, respectively, when the number of LEDs are increased by three times. We found that the temperature between LEDs can be reduced if unit heat flux can be reduced.

Keyword: Thermal resistance, Thermal degradation, High power LEDs, Heat transfer, Heat flux.

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66.

Authors: **A. M. Abdel-Wahab**

Paper Title: **Field Assessment to Determine The KIBLAH Direction of Mosques in MAKKAH**

Abstract:Every Muslim must pray to ALLAH five times every day and they must direct their faces toward the KABAH (KIBLAH direction) in each prayer. Muslims Scientifics and Astronomers since the eighth century (A.D) have been concerned with the determination of the KIBLAH direction. The KIBLAH direction at any point on the earth's surface; assuming the earth to be a perfect sphere; is given by the great circle passing through that point and holy city MAKKAH. Furthermore, the KIBLAH direction from the geographic north at this point is the angle between the tangent of the meridian passing through this point and the KABAH (Azimuth). In this context, the KIBLAH direction can be determined by using the spherical triangle between this point, KABAH, and North Pole. Moreover, in MAKKAH itself the KIBLAH direction is the direction of the line connect the point to KABAH. The KIBLAH direction can be determined by many methods as mathematical (by determining the geographic coordinates by GPS, graphical, observe the sun when it's above or below the KABAH, etc. This direction refers to the true north direction which can be located by the magnetic compass when the magnetic declination is known at that point. This study investigates the accuracy of compass in determining the KIBLAH direction in MAKKAH. The methodology includes drawing the azimuth line map which is used in determining the KIBLAH direction at any point in MAKKAH. The KIBLAH direction in a few mosques in MAKKAH has been tested using the azimuth line map and compass during this study. The prismatic compass with a telescope can be used to determine the direction of the KIBLAH in MAKKAH provided that it is

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not affected by local gravity and that the place of its use is far from the field of local gravity and succession. The KIBLAH direction can be obtained from the map at any location inside MAKKAH. One can be used this technique either to determine KIBLAH direction during the construction of a new mosque or to check the KIBLAH direction in an existing mosque. It should always check the value of the declination angle (δ), in the case used the compass for determining the KABLAH direction because it changes annually within 3 minutes per year. The compass should not be used if the angle of difference is not known and in this case Theodolite or any other device can be used for setting out the KIBLAH direction after knowing the true north direction.

Keyword:declination angle, Magnetic Azimuth, True Azimuth, GPS, latitude, longitude, spherical triangle

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67.	**Authors:**	**B.Almas , K.Sathesh , S.Rajasekaran**
	Paper Title:	**A Deep Analysis of Google Net and AlexNet for Lung Cancer Detection**

Abstract:Lung cancer is the major cancer that cannot be disregarded intentionally and causes deceased with late healthcare. Now, Computed Tomography(CT) scan allows the doctors to recognize the lung cancer in the beginning of the stage. Majority of cases are tends to be failed in diagnosis of determining the lung cancer eventhough the doctors are experienced, they failed to detect the cancer. Deep learning is the important technique that can be applicable in medical imaging diagnosis. In this paper, the implementation of Convolutional Neural Networks such as GoogleNet (Inception) and AlexNet are analyzed for the lung cancer detection. The cancer images from LIDC-IDRI dataset is used for this research work. The Preprocessed cancer images are trained using GoogleNet and AlexNet to determine the cancer affected part of the lungs. The identification of lung cancer by using GoogLeNet and AlexNet are used for training the network, and image classification. These networks are provided with layered architecture for classification. We have found that AlexNet and GoogLeNet provides the comparable results by including parameters like time, initial learning rate and accuracy.

Keyword: AlexNet, Accuracy, Convolutional NeuralNetwork, Diagnosis, GoogleNet, Learning rate

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68.	**Authors:**	**Parli B. Hari, Shailendra Narayan Singh**
	Paper Title:	**A Wireless Sensor Networks Security Protocol Architecture**

Abstract:A wireless sensor network is made up of extremely small autonomous units capable of sensing,

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computing and communicating. There are numerous restrictions on wireless sensor networks as the resource available to the wireless sensor network is limited. Thus, a number of clustering protocols in a routing sensor organization of sensor networks have been proposed in the literature which increase the throughput, save energy and decrease the delay in the system. In this paper, we put forward SNP, the one of its type link layer security architecture for wireless sensor networks. In this, the design vulnerabilities which were found in the protocols such as 802.11b and GSM are addressed using SNP. Security protocols have very conservative approach while guaranteeing the security and typically add up around 16-32 bytes as overhead. Owing to the scenario that sensor networks have limited supply of energy, little memory and low power processors, a 30 byte packet is more of unaffordable luxury for the wireless sensor networks. In SNP, the different trade-offs between separate cryptographic algorithms and wireless sensor network limitations are used to find an optimum point where packet overhead, security and resource requirements are met.

Keyword: Wireless sensor network, Link Layer Security, MAC, Security, Design, SNP.

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69.

Authors: **Agnes Shiny Rachel, Rajakumar.G**

Paper Title: **Design and Implementation of 256 Bit Modified Square Root Carry Select Adder for Area and Delay Reduction**

Abstract:This paper models the behaviour of modified Square Root Carry Select Adder and goes deep to investigate on its scope of reducing area and delay. This helps to overcome the drawback of conventional RCA by performing operations simultaneously for both Cin = 0 and Cin = 1, and the output is multiplexed to obtain the desired response. The work explores opportunities to reduce the area with introduction of BEC logic instead of second block RCA. The implementation of a 4 bit MCSLA and its capability of extending its word size to 8, 16, 32, 64, 128 and 256 bits are presented. The experimental result helps to verify the effectiveness of the approach. This provides understanding on how the reduction of area can bring vital improvements in Very Large Scale Integration.

Keyword:RCA, BEC, MCSLA, Delay, Area

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	Circuits for Process Corner Variations, Slew-rate and Load Capacitance", Wireless Personal Communications (November 2018, Volume 103, Issue 1, pp 99–115) (Springer US),ISSN 1572-834X, DOI : 10.1007/s11277-018-5428-8	
70.	**Authors:** **Mohammad Yusuf, Vijaya Bhandari** **Paper Title:** **Enhancement in the Gain of EDFA in Fibre Optic Communication** **Abstract**:With the evolvement ofhigh speed and long distance data communication systems, conventional band erbium-doped fiber amplifiers (C-EDFAs) are getting more attention in recent times. Major advantage of the C-band EDFA is that it provides the user to realize a system with wide bandwidth of 40 nm. But, from the reported works, it is evident that for Gain enhancement in C-band using EDFA is reported with the use of multiple stages, multiple pumps, Gain flattening filters etc. However, these techniques suffered from high cost, complex techniques and low performance.Here enhancement process was done through the narrowband Fiber Bragg Gratings (FBG) or fiber reflectors mirrors. In this work, a conventional band erbium doped fiber amplifier is proposed with high gain and less noise figure by incorporating the two fiber bragg gratings (FBGs) for amplified spontaneous noise reinjection. Maximum ASE is emerged at 1565 nmfor the at -55 dBm carrier powers. Maximum gain is found out to be 48.16 dB with noise figure of 5.29 dBm. **Keyword:**EDFA, WDM, FBG, ASE. **References:** 1. Hari Bhagwan Sharma, Tarun Gulati, Bharat Rawat, "Evaluation of Optical Amplifiers," International Journal of Engineering Research and Applications, ISSN: 2248-9622, vol. 2, no. 1, pp. 663-667, 2012. 2. Kumar N. Sivarajan, "The Optical Transport Network Revolution," Networking Workshop 2, Chennai, 2010. 3. Mukherjee, "Optical WDM Networks," New York: Springer, 2006. 4. G.P. Agrawal, "Fiber Optic Communication Systems," John Wiley and Sons, New York, 1997. 5. Achyut K. Dutta, Niloy K. Dutta, Masahiko Fujiwara, "WDM Technologies: Optical Networks, "Volume III, Elsevier Academic Press," 2004. 6. K. N. Sivarajan, "The Optical Transport Network Revolution," Chennai: Networking Workshop 2, 2010. 7. Biswanath Mukherjee, " WDM optical communication networks: progress and challenges," IEEE journal on selected areas in communications, vol. 18, no. 10, pp. 1810-1824, 2000. 8. Don Warren and Justin Moore, "Multiplexing in Fiber Optic Connections", Summer Ventures in Science and Mathematics, 2001. 9. J.M. Senior, "Optical Fiber Communications," Prentice Hall, New York, 1992. 10. J. D. Downie, J. Hurley, S. Ten , C. Towery, M. Sharma, Y. Mauro, C. Malouin, B. Zhang, J. Bennike, T. Schmidt and R. Saunders, "DWDM 43 Gbit/s DPSK transmission over 1200 km with no inline dispersion compensation," Electronics Letters, vol. 46, no. 1, pp. 60-62, 2010. 11. Cedric F. Lam, "Passive Optical Networks- Principles and Practice," Elsevier Science and Technology, 2007. 12. Imperial College Press, "The principles of semiconductor laser diodes and amplifiers analysis and Transmission Line Laser modeling," Singapore, 2004. 13. Y. N. Singh, H. M. Gupta and V. K. Jain, "Semiconductor optical amplifiers in WDM tree-net," IEEE Journal of Lightwave Technology, vol. 15, no. 2, pp. 252-260, 1997. 14. H Ghafouri-Shiraz, "The Principles Of Semiconductor Laser Diodes And Amplifiers,"Imperial College Press, Landon, 2004. 15. Yugnanada Malhotra, R.S. Kaler, "Optimization of Super Dense WDM Systems for capacity enhancement", Elsevier, Optik-International Journal of Light and Electron Optic, vol. 123, no. 16, pp. 1497-1500, 2012	**411-417**
71.	**Authors:** **B.Krishna Kumar** **Paper Title:** **Denoising of EEG Signal using Matlab and SIMULINK Techniques and Estimation of Power Spectral Density of EEG Signal using SIMULINK AR Models** **Abstract**:The Electroencephalogram (EEG) is the standard technique for investigating the brain's electrical activity in different psychological and pathological states. Analysis of Electroencephalogram (EEG) signal is a challenging task by reason of the presence of different artifacts such as Ocular Artifacts (OA) and Electromyogram. Normally EEG signals falls in the frequency range of DC to 60 Hz and amplitude of 1-5 µv. Ocular artifacts do have the similar statistical properties of EEG signals, often interfere with EEG signal, thereby making the analysis of EEG signals more complex. In this research paper, removal of artifacts was done using wavelets (matlab coding) as well as using SIMULINK DWT and IDWT blocks and estimated the SNR. In the next stage the output of IDWT block was taken as input to Burg model and Yule walker model to estimate the power spectral density of EEG signal by setting the various parameters of the blocks. The implementation of denoising of EEG signal using SIMULINK DWT and IDWT blocks and estimation of power spectral density of denoised EEG signal using Burg model and Yule walker model was explained in detail in the paper under the methodology heading. In this research paper, the collected EEG signal is normalized and later linearly mixed with the normalized EOG signal resulting in a noisy EEG signal. This noisy EEG signal is decomposed to 4 levels by using different wavelets. This decomposition of EEG signals yields approximate and detail coefficients. Later different thresholding techniques were applied to detail coefficients and estimated the Signal to Noise Ratio of it and estimated the power spectral density of denoised EEG signal obtained from dB4 wavelet as it is providing better SNR than other wavelets mentioned in the results. **Keyword:**WT, DWT, Ocular Artifacts, power spectral density. **References:** 1. ENiedermeyer and FHSilva "Electroencephalography: Basic principles, clinical applications and related fields" Lippincott, Williams & Wilkins, 2004. 2. MR Arab, AA Suratgar, VMM Hernandez, AR Ashtiani "Electroencephalogram Signals Processing for the Diagnosis of Petit mal and Grand mal Epilepsies Using an Artificial Neural Network" Journal of Applied Research and Technology, vol 8, pp. 120-129, 2010 3. GL Holmes, CT Lombroso. "Prognostic value of background patterns in the neonatal EEG" .J. Clin. Neurophysiol, Vol.10, pp.	**418-422**

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72.	**Authors:**	**Debabrata Sarddar, Gourab Dutta, Rajat Pandit**
	Paper Title:	**Heat Consumption Technique of Cloud Data Center and Produce Distilled Water**

Abstract:Cloud computing is a recent and emerging technology of computer science and engineering. In cloud data center runs more than thousands of server and host runs for process and store the data. Due to this reason, the cloud data center produces a lot of carbon and heat which exhalation into the air thus the environment pollution occurs due to the cloud data center. That is why researches in energy consumption, saving energy, cooling renewable energy, environmental pollution control are a new researches area of cloud computing. In this research, we mainly concentrate on the heating problem of the cloud data center and produce distilled water by using the heat of the cloud data center. We transfer the heat from the cloud data center to the water tank through the channel and by using this heat we produce the distilled water. For produce, the distill water huge heat and cost required. In our research proposal for producing the distilled water, the main source of the heating energy is cloud data center so we can reduce the heating cost for producing the distilled water. By using this proposed model we not only reuse the heat of the data center but also we can control the heating problem of the cloud data center which is harmful to the environment.

Keyword: Cloud Computing, Energy Consumption, Environment Pollution, Waste Heat Reuse, Water Purification.

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Authors: **B.Nageswararao, Ch.Divyakrishna, T.Anil Kumar**

Paper Title: **Design and Control of Space Vector Pwm Technique with the Fuzzy Control Based Multilevel Inverter for an open end Winding Induction Motor**

Abstract:In this paper the three phase open end winding IM drive is designed and controlled using a fuzzy control based multilevel inverter with SVM technique is proposed. To overcome the disadvantages of PI controller, in this project we are using the fuzzy controller. The fuzzy controller rules are analyzed very easily, because of it is a human decision making system. The traditional dual inverter having two dc sources the cost and size is might be high, so to overcome this we use the proposed method with single dc voltage source. The main objective of the proposed method is to eliminate the transformer. To achieve the multilevel output voltage waveform with three levels a dc voltage ratio 2:1 is used. The space vector PWM is used to control the switching states of dual multilevel inverter. The fuzzy controller implementation cost is less and more precise. The simulation results are used to analyze the proposed method with fuzzy controller.

Keyword: Multilevel inverter, field-orientated controller (FOC), floating bridge, SVM pulse width modulation, Fuzzy controller, OEW induction motor.

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7. Overall performance evaluation of space vector pulse width modulation on v/f controller based open end winding induction motor.

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Authors: **Gurushree Dindorkar, Vishal Rathee, Suresh Balpande, Jayu Kalambe**

Paper Title: **Detection of Mercury in Water using Filter Paper Based Channel and Colorimetric-Android Readout**

Abstract:The heavy metals dissolved in water are exceptionally unsafe to human and marine health which causes numerious medical complications. This paper demonstrates the use of a Microfluidic paper-based channel (µPAD) and an easy-to-use colorimetric android based application for the accurate detection of heavy metal Mercury (Hg2+) in water. Gold Nanoparticles (AuNPs) functionalized with Papain and 2,6-pyridinedicarboxylic acid is used to detect Hg for further colorimetric analysis. Droplet-based Microfluidic channel in star shape with a paper-based stencil, a hydrophobic barrier and a hydrophilic channel using Polyvinyl Alcohol (PVA) was created for this. Colorimetric detection is used to create a database which is used to calibrate the color range for other unknown quantities of Mercury (Hg2+) present in water. This experimental database was used to create a user-friendly Android Application based display. The real-time android application was calibrated to quantify mercury concentrations from 0.1g / Litre to 0.001mg / Litre by observing a change in color from red to blue. This built platform can be utilized as a basic low-cost and portable system for various other fluid testings.

Keyword: Mercury, Colorimetric Detection, Gold Nanoparticles, µPADs based detection.

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Authors:	**Soumya Ranjan Jena, Raju Shanmugam, Rajesh Kumar Dhanaraj, Kavita Saini**	
Paper Title:	**Recent Advances and Future Research Directions in Edge Cloud Framework**	

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Abstract:Recent years have shown the explosive emergence of Cloud computing in the industry and it is now the need of the hour. It is a great idea to go to utilize 5G remote advancement and man-made thinking to engage speedier response times, lower latency, improved upkeep in figuring. The cloud has at no other time been so essential to the undertaking beforehand. This is where Edge Computing came into picture — seen as an expansion to the cloud, yet interesting in a couple of crucial ways. Empowering data to be taken care of, explored and moved at the edge of the framework, edge enlisting will enable undertakings to gather and assessments data closer to where it is taken care of, consistently, without idleness. Thus it can take into consideration snappy substance conveyance and information preparing that ought to be the eventual fate of registering. In this paper we will extensively study the necessity of Edge Cloud simulation environment and simulate it through EdgeCloudSim. We find that the utilization based, fuzzy competitor based and hybrid based methodologies incline toward offloading the assignments to the edge, so they give better outcomes whereas the average service time of the Fuzzy-Based methodology is least in contrast with the others.

Keyword: Edge Computing, Cloud Computing, Edge Cloud Sim

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Authors: **Lakshmi Naga Jayaprada.Gavarraju, K. Karteeka Pavan**

Paper Title: **Pairwise Sequence Alignment by Differential Evolutionary Algorithm with New Mutation Strategy**

Abstract:Sequence alignment is a significant facet in the bio-informatics research field for the molecular sequence analysis. Arrangement of two biological sequences by maximizing the similarities between the sequences by incorporating and adjusting gaps is Pairwise Sequence Alignment (PSA). Arrangement of multiple sequences is Multiple Sequence Alignment (MSA). Though Dynamic programming can produce optimal sequence alignment for PSA it suffers from a problem when multiple optimal paths are present and trace back is required. Back tracking becomes complex and it is also not suitable for MSA. So many meta-heuristic algorithms like Genetic Algorithm (GA) and Differential Evolutionary Algorithm (DE) are developed in the recent years to resolve the issue of optimization. Both GA and DE are used to produce optimal sequence alignment. But Compared to GA, DE is able to produce more optimal sequence alignment. To further enhance the performance of DE a new mutant is proposed by considering best, worst and a random candidate solution and applied on DE. It is named as New Differential Evolutionary Algorithm (NDE). By taking the test sequences from a bench mark data set “prefab4ref” tests are performed on GA, All DE mutants and NDE and it is observed that the proposed algorithm NDE outperformed all the other algorithms.

Keyword: Sequence Alignment, Biological Sequences, Pairwise Sequence Alignment, Multiple Sequence Alignment, Genetic Algorithm, Differential Evolutionary Algorithm.

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Authors: **Bably Dolly, Deepa Raj**

Paper Title: **Color Based Image Retrieval by Combining Various Features**

Abstract:Content based image retrieval system retrieve the images according to the strong feature related to desire as color, texture and shape of an image. Although visual features cannot be completely determined by semantic features, but still semantic features can be integrate easily into mathematical formulas. This paper is focused on retrieval of images within a large image collection, based on color projection by applying segmentation and quantification on different color models and compared for good result. This method is applied on different categories of image set and evaluated its retrieval rate in different models.

Keyword:segmentation, image retrieval, color feature

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Authors: **Radhika Kumari, Mohit Mayoor, Somnath Mahapatra, P.K. Parhi, H.P. Singh**

Paper Title: **Estimation of Rainfall-Runoff Relationship and Correlation of Runoff with Infiltration Capacity and Temperature Over East Singhbhum District of Jharkhand**

Abstract:In meteorology, Precipitation is any product of the condensation of atmospheric water vapor that falls under the gravity, the rainfall being the principal form of precipitation in India. Rainfall is the most important meteorological parameter for hydrology, as it controls the other processes such as infiltration, runoff, detention storage, and evapotranspiration. When precipitation falls over a catchment area, these processes have to be satisfied before precipitation water becomes runoff. Infiltration is the vertically downward flow of rainfall into ground/underground through percolation inside the soil surface and depends on soil-type, porosity, and permeability. Runoff is the flow of rainwater over the land surface that happens when there is an excess of precipitation over an area. Runoff is produced when the rainwater exceeds the infiltration capacity of the soil. The most important relationships for any watershed are the relationship between rainfall and runoff. This relationship depends on some factors such as characteristics of rainfall, runoff, and infiltration. Though the

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abovementioned factors have a major impact on the volume of runoff, a consistent correlation between rainfall-runoff enables us to increase more confidence in sufficient time for the formulation of appropriate decision making for the local authority. The present research work was undertaken to analyze the correlation between annual rainfall and annual runoff for the years 1901-2018 over Jamshedpur of East Singhbhum district, Jharkhand. Further in this study, the correlation between infiltration and annual runoff was analyzed over the same area and the same data period. Correlation between temperature and annual runoff was also found. Through the graphical analysis, it was found that the value of annual rainfall and runoff are strongly correlated.As the value of the Pearson correlation coefficient (r) is almost equal to +1 which is a nearly perfect positive correlation, signifies that both variables move in the same direction. It also signifies that the two variables being compared have a perfect positive relationship; that means these two are strongly related. Through the study, it was also found that the infiltration and runoff are largely correlated. There was practically no correlation found between the values of temperature and runoff over the years.

Keyword: Infiltration, Runoff, Rainfall, Temperature

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http://dcmsme.gov.in/dips/Singhbhum%20East.pdf

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Authors: **Abdallh M. Soliman, Hatem H. Ibrahim, Hossam A. Hodhod**

Paper Title: **The Mechanical Behavior of Grouted Sleeve Splice Connections with and without Mechanical Interlocking Ring Under Axial Tensile Load**

Abstract:This research work thus presents rational procedure to design a grouted sleeve splice connection using a basic material such as standard pipes with little workmanship this provides the design with a good advantage in comparison to just using selection tables for costly proprietary similar connection. The mechanical behavior of such splices is a function of two important mechanisms: the bar-to-grout bond behavior and the sleeve-to-grout bond behavior. To accomplish the goal of this examination work, three arrangements with an all-out number of 66 grouted splice sleeve specimens were fabricated and tested under incremental axial tensile load. The specimens were preliminary designed according to the equations available in the literature to determine the initial sleeve dimensions. Different parameters have been examined, namely: grout compressive strength, bar embedded length, bar diameter, sleeve inner diameter, sleeve wall thickness and sleeve configuration. The examined parameters provide to have a significant impact on the mechanical behavior of the grouted splices. Considering the results, it was clear that steel bars with 18 mm, 25 mm and 32 mm diameter and 400 Mpa yield stress can be adequately spliced and the tensile strength can be reached. The steel sleeve to the grouted splice sleeve connectors significantly improve the bar-to-grout bond strength through the confinement action added by the sleeve wall. Also welding interlocking steel rings can prevent the grout-to-sleeve bond Failure. Feasibility study for tested grouted sleeves reporting their adequacy in accordance with the code provisions of ACI 318-14[1] and ECP 203-2018[5] is presented. Moreover, design equations capturing the parameters affecting the bond strength, the confining pressure, and the required embedment length are derived.

Keyword: Precast concrete connection; Grouted splice; Mechanical Splice; Confinement; Bond Strength; bar embedment length.

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Authors: **Abhishruti Bhuyan, Bipan Tudu, Rajib Bandyopadhyay, Sudarshan Gogoi, Amarprit Singh**

Paper Title: **Preanodized Screen Printed Carbon Electrode for Detection of Linalool using Three Terminal Network**

Abstract:Linalool is a very important flavouring compound found in plants which is used in food and beverages. Linalool has been traditionally detected by analytical instruments such as gas chromatography (GC) coupled with mass spectroscopy(MS) which are not suitable for routine tests. For fast and low cost detection of chemical compounds electrochemial sensors are most suitable. Screen printed carbon electrode (SPCE) is one of the most popular and low cost device used for detection of chemical compounds. In this article we present the detection of linalool using a low cost preannodized commercial screen printed carbon electrode (SPCE). Traditionally electrochemical sensors are used in two terminal mode, however three terminal analysis of electrochemical sensors are found to be more rationale and accurate. In this paper we have analyzed detection of linalool by an advanced three terminal analysis. First we have performed cyclic voltammetry(CV) of the SPCE which showed clear oxidation peaks at different concentration of linalool. The input-output data of the CV has been used for analysis of the impedance of the SPCE.The impedance model of the SPCE was estimated by autoregressive moving average with exogenous inputs(ARMAX) modelling technique using the CV data. The three terminal impedance fitting revealed the values of electrical parameters and the parasitic elements at different linalool concentration. The stability limits of the SPCE was also determined from the pole-zero and Nyquist plots of the estimated models. Impedance behaviour to frequency of the SPCE was further analyzed by impedance plot(Z vs -Z^') from which we are able to relate the CV scan rate to the impedance of the SPCE. Finally the sensitivity and repeatability of the SPCE was determined using a measurement circuit.

Keyword: Linalool detection, SPCE, three terminal analysis, ARMAX modeling, parasitic elements.

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Authors: **Sudha M, Usha J**

Paper Title: **Fault Tolerance Policy for Resilient Private Cloud Environment**

Abstract:Cloud Computing, being a delivery model is swiftly moving ahead by being adopted by small and large organization alike. This new model opens up many research challenges. As, cloud computing services are offered over the Internet on pay-per-use basis, it is very essential to provide fault tolerant services to the users. To ensure high availability, data centers are replicated. The process of replication is costly but in terms reliability it overtakes the cost factors. Vast amount of work has been undertaken in fault tolerance in other computing environments but they cannot be applied directly to the cloud. This gives an opportunity for new, effective solutions. In this paper, we propose policies for delivering fault tolerant services for private cloud computing environment related to virtual machine allocations. The experimental test results and policies derived are described with respect to virtual machine provisioning.

Keyword: Virtualization, Hypervisor, Immutable Infrastructure, private cloud, fault tolerance

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Authors: **Makhmudova Dilfuza Melievna, Rustamova Nodira Rustamovna, Akbarova Nigora Alimdjanovna, Reymbaeva Sanabar Rejepbaevna**

Paper Title: **Formation of Creative Competence of Future Teachers in The Process of Teaching Mathematics based on Special Tasks**

Abstract: This article was written with the aim of creating the creative competence of future teachers in the process of teaching mathematics based on special tasks. The following tasks are considered in the article: how to concretize the essence and structure of the concept "creative competence of the future teacher", determine the criteria and levels of its formation; substantiate and formulate pedagogical conditions for the formation of creative competence of future teachers in teaching mathematics; to develop a methodological model for the formation of creative competence of future teachers in the process of teaching mathematics; create mathematical tasks that contribute to the formation of creative competence of future teachers in the process of their mathematical preparation; create a diagnostic complex to determine and evaluate the level of formation of creative competence of future teachers; to develop a methodology for the formation of future creative competencies in the learning process, the substantive basis of which is a complex of creatively-oriented mathematical tasks, focused on the implementation of the created model; experimentally confirm the effectiveness of the developed methodology for the formation of creative competence of future teachers in the process of teaching mathematics. The article analyzes the basic concepts - "competence", "creativity", "creative competence".

Keyword:problematic teaching, creative technologies, special tasks, mathematic teaching, interactive ways of teaching.

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Authors: **D. B. Jadhav, P.V. Jadhav, D. S. Bilgi**

Paper Title: **Anodic Dissolution of Gamma Titanium Aluminide GE 48-2-2, TNM B1 and TNB V5 Materials using Electrochemical Machining Electrolytes for Aviation Application**

Abstract: Investigation of temperature resistant lightweight materials used in airplane components with higher thermal efficiency gaining importance. These materials possess challenges and replace twice dense nickel (Ni) based super alloys presently found application in aeroplane industry. In this article, anodic dissolution of commercial gamma titanium aluminide (γ-TiAl) alloys; GE 48-2-2, TNM B1 and TNB V5 were investigated. These are potential materials to be used for manufacturing low pressure turbine blades by electrochemical machining. The materials were characterized by X-ray diffraction (XRD) and scanning electron microscopy (SEM). XRD confirms the presence of two phases Ti3Al, α2 (13.8%) and TiAl, γ (86.2%). SEM shows the porous surface after the anodic dissolution. It has been found that 1 M KBr is the most effective electrolyte for the dissolution followed by NaCl and NaNO3. The effect of temperature, electrolyte concentration, passivation and rotation speed were evaluated. The dissolution potential of TNB V5 found to be high could be due to the presence carbon content which may lead to the high creep resistance in the material.

Keyword: Anodic dissolution, Gamma Titanium Aluminide, Linear sweep voltammetry, Passivation, Tafel plot

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Authors: **D. P. Gaikwad, M. M. Swami, S. S. Kolte**

Paper Title: **Ensemble of Rule Learner and Sequential Minimum Optimization Algorithm for Intrusion Detection System**

Abstract:An intrusion detection system is a process which automates analyzing activities in network or a computer system. It is used to detect nasty code, hateful activities, intruders and uninvited communications over the Internet. The general intrusion detection system is struggling with some problems like false positive rate, false negative rate, low classification accuracy and slow speed. Now-a-days, this has turned an attention of many researchers to handle these issues. Recently, ensemble of different base classifier is widely used to implement intrusion detection system. In ensemble method of machine learning, the proper selection of base classifier is a challenging task.In this paper, machine learning ensemble have designed and implemented for the intrusion detection system. The ensemble of Partial Decision Tree and Sequential Minimum optimization algorithm to train support vector machine have used for intrusion detection system. Partial Decision Tree rule learner is simplicity and it generates rules fast. Sequential Minimum optimization algorithm is easy to use and is better scaling with training set size with less computational time. Due to these advantages of both classifiers, they jointly used with different methods of ensemble. We make use of all types of methods of ensemble. The performances of base classifiers have evaluated in term of false positive, accuracy and true positive. Performance results display that proposed majority voting method of ensemble using Partial Decision Tree rule learner and Sequential Minimum optimization algorithm based Support Vector Machine offers highest classification among different ensemble classifiers on training dataset. This method of ensemble exhibits highest true positive and lowest false positive rates. It is also observed that stacking of both PART and SMO exhibits lowest and same classification accuracy on test dataset.

Keyword: AdaBoost, Bagging, Combination rule, PART, SMO, True positive and False positive

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85.	**Authors:**	**V. Malathi, D. Vijayakumar**
	Paper Title:	**Model Predictive Controlled SLQZSI Fed IM Drive with Quick Response**

Abstract:This paper presents a model predictive controlled switched inductor quasi Z source inverter fed induction motor drive with quick response. MPC depends on dynamic models of the process and more frequently linear empirical models are arrived trough drive system identification. The unique nature of MPC has control logic to optimize the induction motor speed while considering the further speed. Modeling of MPC controlled SLQZSI fed IM is obtained through simulation under MATLAB platform and experimental work. The performance of closed loop controlled SLQZSI fed IM drive is analyzed in terms of rise time, settling tim, peak time and steady state error. The outcomes shows that the reaction of MP controlled SLQZSI fed IM drive are quicker than that of PI and FOPID controlled SLQZSI fed IM.

Keyword:FOPID, Model predictive controller, Peak time, Rise time, Settling time, switched inductor quasi z source inverter, Steady state error, Induction motor drives.

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Authors: **Sudesh Kumari, Renu Chugh, Ashish Nandal**

Paper Title: **Controlling the Chaos of Logistic Map using Switching Strategy**

Abstract:In our very recent work (2019), we extended the stability performance of logistic map up to a higher value of r using SP orbit. In this article, we further extend this range of stability by adopting switching strategy (Parrondo's Paradox) of controlling the chaos of dynamical systems. We observe that even the earlier chaotic orbits of four step feedback procedure can be converted into periodic orbits. Our approach can be used to solve a wider circle of engineering problems.

Keyword:SP orbit, switching strategy, logistic map, bifurcation plot.

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87.

Authors: **Thottempudi Pardhu, R. Sateesh, K. Naveen, K. Mani Raj**

Paper Title: **Implementation of Steganographic Algorithms Based on Exact Histogram Matching and Colour Visual Cryptography**

Abstract:Sensitive secret data transmission through internet has been of great security concern which can be overcome by steganographic methods achieved through secret image sharing. Two novel steganographic secret algorithms based on colour visual cryptography and exact histogram specification is proposed in the present study. The former approach combines colour visual cryptography with a secret key to produce less distorted meaningful share images. A specified histogram acts as the key for the second approach and provides better security and data obscurity compared to conventional approaches. A novel histogram specification method is also proposed which exactly matches the histogram of an image to a specified histogram.

Keyword: Steganography; Colour visual cryptography; Exact histogram specification; Meaningful Shares

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88.

Authors: **Suganthi K, Sundararaman K, Venkatakrishnakumar V**

Paper Title: **A Low-Cost PV Emulator using Labview and Arduino**

Abstract:A solar panel emulator is a programmable power supply which mimics the characteristics of a solar panel and can be used under laboratory conditions. This paper proposes the design of an economical solar panel emulator using LabView software and its implementation using Arduino. The proposed emulator consists of a flyback converter with a MOSFET driver which brings out the characteristics of the desired PV panel. The characteristic curves are generated using LabView software and PWM signal is generated in hardware. This PWM signal drives the MOSFET which in turn operates the flyback converter. The proposed system is simulated using MATLAB software and a prototype of the proposed system is implemented using Arduino UNO R3.

Keyword: Arduino, LabView, PV emulator, Solar simulator.

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Authors: **Nilima Salankar, Anjali Mishra, Pratikshya Mishra**

Paper Title: **Functional Connectivity and Classification of Actual and Imaginary Motor Movement**

Abstract:Imaginary Motor movement is an utmost important for the designing of brain computer interface to assist the individual with physically disability. Brain signals associated with actual motor movement include the signal for muscle activity whereas in case of imaginary motor movement actual muscle movement is not present .Authors have investigated the similarity/dissimilarity between the eeg signals generated in both the cases along with the baseline activity. To instruct the brain computer interface signals generated by electrodes of EEG must resemble with actual motor movement. Selection of electrodes placement plays an important role for this purpose. In this study major four regions of the brain has been covered frontal, temporal, parietal and occipital region of the scalp and features are extracted from the signals are standard deviations, kurtosis, skew and mean. Support Vector Machine is used for the classification between actual and imaginary motor movement along with differentiation between baseline and imaginary motor movement and actual motor movement at 14 different electrodes positions. Statistical performances of the classifier have been evaluated by computing sensitivity, specificity and accuracy. The location involved to achieve maximum accuracy for the classification of motor movements (actual and imaginary) and no motor movement is at frontal, temporal and parietal region whereas very less involvement has been seen of occipital region.

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Keyword:EEG, ACTUAL, IMAGINARY

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90.

Authors: **Kattamuri Satish**

Paper Title: **The Dynamics of General Insurance Sector in India - Growth and Performance Perspective**

Abstract:Life is full of risks and uncertainties. In fact risk is everywhere. Even when you ride a bike to the nearest shop in the street, there is a risk. One must protect himself or herself from this risk. The solution is insurance. Broadly it is two types i.e. life insurance and non-life insurance (general insurance). In this paper we discuss about only general insurance. General insurance helps in securing ourselves and things we value like homes, cars, bikes or any other property from any kind of mishap whether it is big or small. General insurance protect insured property from fire accidents, floods, earthquakes, storms, thefts, travel accidents/mishaps or any other kind of calamity, even from the cost incurred against us from legal action depending upon the type of policy selected by the insurer. From the post liberalization scenario, general insurance in India is growing rapidly. The reasons behind its spectacular growth are allowing private companies to enter into Indian market, low insurance premium, TPAs (Third Party Administrators), Fast and immediate settlement of insurance claims, Innovative general insurance policies, discounts in insurance products, increasing awareness among people, more distribution channels etc. The other side of the coin is, public sector insurance companies are facing cut throat completion from private insurance companies as they offer wide variety of policies at a low premium. Due to this few general insurance companies are closed and few are forced to come out with same polices and services. Ultimately the performance of public sector general insurance companies also enhanced with the competitive moves by private players. On the other hand, customers are also exposed to new trends in the insurance market. Insurance Regulatory and Development Authority (IRDA) is the apex body in India to monitor the activities of insurance companies. It has laid down standard terms and conditions to general insurance companies and also given scope for personal accidental life insurance policies. IRDA has taken all the measures to improve the performance of general insurance companies as it is one of the fast growing areas in Indian economy. General insurance companies under public sector are facing lot of challenges from private players and to with stand in the completion, even they have improved a lot in their quality of service in multiple facets like decreasing the premium, quick settlement in claims etc. In a nut shell, general insurance business is contributing significantly to Gross Domestic Product (GDP).

Keyword:IRDA, general insurance, claims, premiums, risks, public and private sector general insurance companies.

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Authors: **Keerthy A. S., S. Manju Priya**

Paper Title: **Genomic Sequence Data Compression using Lempel-Ziv-Welch Algorithm with Indexed Multiple Dictionary**

Abstract:With the advancement in technology and development of High Throughput System (HTS), the amount of genomic data generated per day per laboratory across the globe is surpassing the Moore's law. The huge amount of data generated is of concern to the biologists with respect to their storage as well as transmission across different locations for further analysis. Compression of the genomic data is the wise option to overcome the problems arising from the data deluge. This paper discusses various algorithms that exists for compression of genomic data as well as a few general purpose algorithms and proposes a LZW-based compression algorithm that uses indexed multiple dictionaries for compression. The proposed method exhibits an average compression ratio of 0.41 bits per base and an average compression time of 6.45 secs for a DNA sequence of an average size 105.9 KB.

Keyword: Compression, lossless, LZW, DNA, Multiple Dictionary, Decompression.

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Authors: **Nagarjuna Reddy Mudem, S. P. Jani**

Paper Title: **Modelling and Simulating the Effect of Sunlight Heat on Front Bumper**

Abstract:In this speeding modern world, it became a necessity to have at least one car for every family. There often comes the time when the car has to be parked in an open area due to space or parking unavailability. During daytime, the sunlight heat causes the car's exterior parts to get heated. Especially the summer heat in India is unbearable. The temperature rises too high that the stationery car's exterior parts can reach the temperature of 90°C (Considering the car is stationery for over a period of time). The parts of the car that are exposed to sunlight heat are Hood, Front and rear bumper, Doors and Roof area. Out of all the exterior parts, Bumper is plastic and it is the most important when it comes to style and safety. In this research the effect of Sunlight heat on Front bumper is studied. The problems associated with sunlight heat on Front bumper are; the front bumper goes out of its original shape, disturbs the Clearance (Gaps) and fitting with surrounding parts, if the surrounding parts are too stiff the Front bumper itself undergoes high deformation and high internal stresses will be developed at the mating regions. In this research the FE modeling of Front bumper is done using ANSA software, the sunlight heat effect is simulated using ABAQUS solver. From the simulation results, there is 5.86mm deformation observed on Front bumper, and at the mating regions (The region where Front bumper is surrounded by other parts like Head lamp, Hood, Wheel arch) there is a displacement of 3.39mm (maximum clearance maintained at mating regions is 3mm).Several countermeasures were studied and the best way to avoid the deformation is adding Honey-comb ribs, stiffeners at the mating regions.

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Keyword:ABAQUS solver, ANSA software, countermeasure, Front Bumper, Honey-comb ribs, stiffeners.

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93.

Authors: **Anatoli Nachev**

Paper Title: **Data Mining Techniques for Analysing Employment Data**

Abstract:This paper proposes a methodology that uses a large-scale employment dataset in order to explore which factors affect employment and how. The proposed methodology is a combination of predictive modelling, variable significance analysis, and VEC analysis. Modelling is based on logistic regression, linear discriminant analysis, neural network, classification tree, and support vector machine. Following the CRISP-DM standard process model, we train binary classifiers optimising their hyper-parameters and measure their performance by prediction accuracy, ROC analysis, and AUC. Using sensitivity analysis, we rank the variable significance in order to identify and measure factors of employment. Using VEC analysis, we further explore how values of those factors affect employment. Findings show that best performing models are neural networks and support vector machines with preference to the latter for quality of VEC. Experiments also suggest that education and age are primary contributors for correct classification with specific value distribution, discussed in the paper. All results were validated using a rigorous testing procedure that involves training, validation, and test data partitions and a combination of multiple runs along with three-fold cross-validation. This study addresses some gaps in previous research publications, which lack quantification of the conclusions made.

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Keyword:classification, data mining, employment data,machine learning.

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Authors: **Anjali Jain, Archika Malhotra, Aayushi Rohilla, Prachi Kaushik**

Paper Title: **Water Quality Monitoring and Management System for Residents**

Abstract:This paper presents a Water Quality Monitoring and Management System for the Residents. For the incoming water three water quality parameters- pH, Turbidity, and Temperature will be checked. The proposed system will check the tank level and quality of water supplied and according to the results will decide whether water to be allowed to enter into the cistern. The system notifies the user about water quality and daily water consumption via the IFTTT app, SMS or email alert as data will be uploaded on the Adafruit cloud. The objectives to design this system are to ensure the prevention of contamination of the water supply, untimed water supply and real-time automation of water supply according to the tank level, water quality, and supply.

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Keyword: Water Management, water quality, real-time data analysis, water Consumption, automate water motor, IFTTT, Adafruit Cloud

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Authors:	**Pankaj U. Lande, Sanjay N. Talbar, G. N. Shinde**
Paper Title:	**Digital Design for Image-Adaptive Watermarking using CDF 5/3 Wavelet**

Abstract: Paper This paper presents a hardware architecture for image-adaptive watermarking in the wavelet domain. The embedding strength factor is selected by calculating the energy present between the different frequency bands. The current algorithm is constructed on a CDF 5/3 wavelet based on the model of lossless compression JPEG 2000. Wavelet filters are implemented using a parallel architecture with a lifting scheme, which makes them more efficient in terms of speed and hardware utilization. The top module of the system is built with the combination of serial-parallel architecture to balance the speed and power consumption. The presented watermarking system is tested using hardware in the loop-testing technique. The objective is to develop an image-adaptive, real time, low power consumption and robust watermarking system, which can be incorporated into existing hardware such as digital cameras, scanners, and camcorders. The watermarking system's efficiency against different assaults has been evaluated using the StirMark software. The proposed watermarking system showed robustness against most of the geometric and non-geometric attacks.

Keyword: Discrete Wavelet Transform (DWT), Field Programable Gate Array (FPGA), Hardware in the loop (HIL), Watermarking, Cohen–Daubechies–Feauveau wavelet (CDF).

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Authors:	**Sonal K. Jagtap, Kanchan L. Dombale, Himali B. Ghorpade**	
Paper Title:	**Bit Rate Transcoding for High Efficiency Video Coding**	

Abstract:High efficiency video coding (HEVC) has demonstrated a notable increase in compression performance and is taken as a successor to H.264/AVC. Efficient bit rate adaptation algorithms are required to contain the HEVC standard between real life community facilities. A present issue of bit rate transcoding is its high computational complexity which is related with the encoder of a cascaded pixel domain transcoder. This paper gives Top to Bottom (T2B) approach to reduce complexity by using different complexity schemes. Proposed approach is effective in reducing complexity in Coding Unit (CU) optimization level. Coding Unit has been analyzed in T2B Approach. While examining the coding unit information of the input video is turned to account for decreasing the number of evaluation and early terminate the process. For the Prediction Unit (PU) level the units are powerfully chosen contingent upon likelihood of Prediction Unit sizes and co-found input prediction partitioning. By utilizing this approach, complexity scalable bit rate transcoding has achieved. Machine learning approach can be used to control computational complexity. Additionally, the T2B strategy is able to gain a spread on trade-offs in transrating complexity and coding performance. Using T2B approach 15% encoding time saving is accomplished. From this scheme, for the less resolution video 27% time saving has achieved.

Keyword: Coding Unit (CU), High Efficiency Video Coding (HEVC), Transcoding, Video Coding.

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Authors:	**Anatoly Adamovich Kornienko, Mark Aleksandrovich Polyanichko**
Paper Title:	**Insider Detection Method in a Company**

Abstract:Managers often focus on external threats mainly due to the difficulties in evaluating the losses from the insider activities. The purpose of the study is to improve the efficient performance of an information security department and a company itself in counteracting insider threats by increasing the accuracy and rate of assessing the insider threat for each employee and ranking employees in accordance with the assessment of a summarized technical threat indicator. The authors morphologically analyze the features of insider activities in three sections and identify a promising area for combating the insiders – a prompt identification of unusual behavior signaling a breach of confidentiality. The paper describes an algorithm developed by the authors for assessing the insider threat for each employee of a company and ranking all employees by a summarized technical threat indicator. The steps to implement the algorithm are described in detail and a fuzzy derivation scheme of a summarized technical threat indicator is presented; an example is used to test the algorithm. The algorithm can be implemented as a part of a corporate information system. It is cheap to use and own, and it is rated as cost-efficient.

Keyword: Internal threats, insider, insider detection, risk management, linguistic variables.

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98.	**Authors:**	**V. Bharathi, P. Raja , S. Meenabavyakarthika, V. Logisvary**
	Paper Title:	**Itinerary Aware Data Delivery Technique for Underwater Acoustic Sensor Networks**

Abstract:Monitoring and maintaining aquatic environment is the universal need and Underwater Acoustic Sensor Networks (UASN) is an emerging technology plays a major role in acoustic data acquistion. The data acquisition is challenging issue in UASN due to its communication characteristics. Though, there are several geo-opportunistic routing protocols were explored to improve the data acquisition it can be still improved by enhanced routing technique. The existing Geo-graphical depth adjustment routing (GEDAR) uses Global Positioning System(GPS) based notes for improving data acquisition, however it consumes more energy and increases overhead. We make an attempt to study about efficient data acquisition process and its path reliability. The proposed Itinerary aware routing protocol(IARP) acquires neighboring node's information for constructing efficient and reliable link with minimum information which improves data delivery ratio with minimum energy consumption. The proposed IARP increases 11% packet delivery ratio and reduces delay by 13%, and energy consumption by 9% comparing with existing GEDAR based algorithm. IARP also performs better than Depth based routing (DBR).

Keyword: Underwater Acoustic Sensor Networks, GEDAR, Depth based routing, Itinerary aware routing

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99.	**Authors:**	**B. Ramesh, P. Hariprasad, R. Sarath Kumar, A. Magesh**
	Paper Title:	**Influencing Variables of Drawing Process using Magnesium Tubes**

Abstract:The present work examines the deformation of magnesium tubes using drawing process. During examination, absence of wrinkling and cracking is witnessed at 303k. The effect of mandrel on the cross section of the extruded tubes, wall thickness and spring-back of the bent tube are vividly discussed. Results show that presence of mandrel decreases the cross section of distortion and the spring back angle. Further, the present investigation clarifies the thinning rate of tube wall thickness. It is found that at the bending angle of 90° largest distortion is witnessed.

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Keyword: Drawing Process, Deformation Mechanism, Extrusion, Magnesium Tubes

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100.

Authors: **PL. Chithra, S. Janes Pushparani**

Paper Title: **SURF Points Versus SIFT Points in Identification of Medicinal Plants**

Abstract:Today, digital image processing is used in diverse fields; this paper attempts to compare the outcome of two commonly used techniques namely Speeded Up Robust Feature (SURF) points and Scale Invariant Feature Transform (SIFT) points in image processing operations. This study focuses on leaf veins for identification of plants. An algorithm sequence has been utilized for the purpose of recognition of leaves. SURF and SIFT extractions are applied to define and distinguish the limited structures of the documented vein image of the leaf separately and Support Vector Machine (SVM) is integrated to classify and identify the correct plant. The results prove that the SURF algorithm is the fastest and an efficient one. The results of the study can be extrapolated to authenticate medicinal plants which is the starting step to standardize herbs and carryout research.

Keyword:digital image processing, foliage, herbal, medicinal plants, leaf vein, Scale Invariant Feature Transform (SIFT) points extraction, Speeded Up Robust Feature (SURF) points extraction, Support Vector Machine (SVM) classifier.

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Authors: **Dipak Raghunath Patil, Rajesh Purohit**

Paper Title: **Dynamic Resource Allocation and Memory Management using Deep Convolutional Neural Network**

Abstract:Memory management is very essential task for large-scale storage systems; in mobile platform generate storage errors due to insufficient memory as well as additional task overhead. Many existing systems

have illustrated different solution for such issues, like load balancing and load rebalancing. Different unusable applications which are already installed in mobile platform user never access frequently but it allocates some memory space on hard device storage. In the proposed research work we describe dynamic resource allocation for mobile platforms using deep learning approach. In Real world mobile systems users may install different kind of applications which required ad-hoc basis. Such applications may be affect to execution performance of system as well space complexity, sometime they also affect another runnable applications performance. To eliminate of such issues, we carried out an approach to allocate runtime resources for data storage for mobile platform. When system connected with cloud data server it store complete file system on remote Virtual Machine (VM) and whenever a single application required which immediately install beginning as remote server to local device. For developed of proposed system we implemented deep learning base Convolutional Neural Network (CNN), algorithm has used with tensorflow environment which reduces the time complexity for data storage as well as extraction respectively.

Keyword: Deep Learning, transfer Learning.

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Authors:	**Kamaljyoti Gogoi, Saibal Chatterjee**	
Paper Title:	**L-Index Based Weak Area Identification of IEEE 118 Bus System using Dynamic Simulation in PSS®E**	

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Abstract:Voltage stability is a relevant part of power system stability analysis ever since many voltage collapse incidences have occurred at different regions of the world. In this paper we take up IEEE 118 bus system as it represents a close approximation of standard Grid system. This IEEE 118-bus system has fixed number of predefined generators, synchronous condensers, transmission lines, transformers and loads. In this work IEEE 118 bus system is simulated and load flow simulation is computed using the software PSS®E. The weak buses of the IEEE standard 118 bus network are predicted with the help of L-Index Algorithm in MATLAB. Further dynamic simulation is also performed in the weak buses obtained from L-Index as it opens up scope of more detail analysis of the system. An initial transient disturbance is then introduced in the weak buses and then the resultant maximum frequency deviation and the recovery time of the voltage is computed which finally helps to detect the weak areas in the transmission network. Further Critical Clearing time of the weakest bus is also computed.

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Keyword: Dynamic Simulation, L-Index, Load flow studies, PSS®E, Power system modelling.

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Authors: **Balambigai Subramanian, V. Saravanan, Rudra Kalyan Nayak, T. Gunasekaran, S. Hariprasath**

Paper Title: **Diabetic Retinopathy – Feature Extraction and Classification using Adaptive Super Pixel Algorithm**

Abstract:Diabetic Retinopathy is an ocular manifestation of diabetes . The longer a person has diabetes, higher are the chances of having diabetic retinopathy in their visual system. Hence the objective of this research work is to propose an automated, suitable and sophisticated approach using image processing so that diabetic retinopathy can be detected at early levels easily and damage to retina can be minimized. A vital point of diabetic retinopathy that it causes detectable changes in the blood vessels of the retina. The focal blurred edges are detected so as to dismiss the false alarms. A two-level approach is used here to classify data. Firstly, optimal features are extracted from the training data and secondly, the classification is done by the use of the adaptive super pixel algorithm and then the test data is analyzed. Adaptive super pixel algorithm can adjust the weights of various features based on their discriminating ability. After the application of algorithm, the diabetic eye is detected by means of various parameters like colour, texture, spatial distance, contour, mean, standard deviation, entropy and maximum pixel points. This research can aid the doctor for easy detection of the disease as it given an accuracy of about 98.33%.

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Keyword: Retinopathy, fundus, adaptive super pixel, classification

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Authors: **Pushpabaipavar, L. Harikrishna, M. Suryanarayana Reddy**

Paper Title: **Hall Effects on Unsteady Magneto Hydrodynamic Convection Flow of Nanofluids Past a Rotating Porous Plate**

Abstract:The effects of Hall current are considered for the convective rotational current free of nanofluid magnetohydrodynamics (copper and alumina) in a permeable medium with a vertical porous flat plate, semi-infinite rotation with stable state of the heat source and convection limit. The slip rate is expected to oscillate over time with a constant frequency so that the boundary layer solutions are of the equivalent oscillating type. The equations to regulate the flow are analytically solved by perturbation estimation. The effects of different parameters on the flow are investigated by means of diagrams and tables.

Keyword: Porous medium; Nanofluids; Convective flow; rotating frame; Heat transfer.

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105.	**Authors:**	**P. Dhana Lakshmi**	
	Paper Title:	**Efficient Mining of Interest Patterns on Click Stream Data**	
	Abstract:Nowadays, large amount of data is generated daily in e-commerce applications as click stream data. Because of the availability of this tremendous amount of data analyzing the user browsing behaviour and finding frequent navigation patterns of different web pages accessed by web users is an key element for retailers to optimize the website and personalized the web services of different e-commerce websites. User browsing behaviour is evaluated based on user interests on web pages or products. There are different parameters are considered while analyzing the click stream data for calculating frequent navigation patterns and context based customer behaviour in online data bases. In this paper we developed different models for optimizing and personalizing web service and sequential frequent patterns using the parameters: browsing path, frequently visited web pages, time duration of web pages and user interest. These novel models uses the parameters and applied on click stream data to optimize the web pages and improve the personalized recommendation. **Keyword:**Data stream, FP-Growth Algorithm, CURE Clustering, Frequent patterns. **References:** 1. Babcock, B., Babu, S., Datar, M., Motwani, R., Widom, J. (2002). Models and issues in data stream systems. In Proceedings of the 21st ACM SIGMOD-SIGACT-SIGART symposium on principles of database systems (pp. 1–16). ACM Press.
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106.	**Authors:**	**Kavide Shekhar, Sirivella Vijaya Bhaskar**	
	Paper Title:	**Performance and Emission Analysis of CIDI Engine Fueled with Palm Biodiesel Blends and Nano Particles**	
	Abstract:The diesel fuel is most extensively used fossil fuel in automotives and a single major source of hazardous environment pollutant across the globe. As of late, the exploration thinks about distinguished that plant based biodiesel are turning into a promising option sustainable fuel and the consumable/non-eatable oils and creature fats can be utilized feed-stock in arrangement of biodiesel, in light of the fact that its chemical properties practically like fossil diesel fuel, non-poisonous, clean consuming and inexhaustible source. In this work, the performance analysis and emission characteristics of single cylinder, 4-stroke, and water cooled diesel engine was carried-out using Palm oil methyl ester as biodiesel alternative to diesel fuel. Experimental tests have been conducted with range of engine loads using palm oil methyl ester (PME) and its diesel blends with biodiesel in the ratio of 10:90 (B10), 20:80 (B20), and 30:70 (B30), 40:60 (B40), PME 100% (B100) and petro-diesel 100% by volume with and without antimony tin oxide (ATO) additive. In this research work brake power (BP), brake thermal efficiency (BTE), brake specific fuel consumption (BSFC), fuel consumption (FC) are considered as engine performance characteristics and carbon monox ide (CO), hydro carbons (HC), oxides of	**640-646**

nitrogen (NOx) are considered as emission characteristics. The experimental results revealed that B10 blend of biodiesel has comparable brake thermal efficiency as diesel. B10 has lowest and B100 has highest BSFC, FC among all the biodiesel blends and biodiesel has lower CO emission, lower HC emission and moderately higher NOx emission when compared with diesel. B10 has shown comparable performance as diesel and it can be considered as alternative to diesel fuel.

Keyword: Biodiesel, Performance, PME, Transesterification.

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Authors: **Noura Kh. Abdel Raheem, Yehia A. Ali, Ahmed M. Ebid, Mohamed A. Khalaf**

Paper Title: **Efficiencies of Different Techniques to Protect Rebars Against Corrosion**

Abstract:Corrosion of steel reinforcement is considered one of the major causes of reinforced concrete deterioration. In the last few decades, researchers studied many different rebar protection techniques against corrosion. Three famous techniques were considered in this research, which are rebars protective coats, sacrificial anode and impressed current. Rebars protective coats are the most used technique in small projects. They are produced with different trade names according to the manufacture. On other hand, sacrificial Anode technique is recommended for aggressive environments. Finally, impressed current technique is usually used for large and corrosion sensitive structures. The aim of this research is to compare the protection efficiency of each of these three techniques. In order to achieve that goal, two experimental programs were carried out; the first program measured the protection efficiency in terms of rebars mass loss using sixteen lollypop samples. The program tested the efficiency of two types of protective coats, three types of sacrificial anodes besides the impressed current using two concrete grades. The second program measured the protection efficiency in terms of loss in structural capacity using six (100x100x1500mm) concrete simple beams. Only one type of protective coating is used besides the impressed current technique. In both programs, all samples were tested using accelerated corrosion test and results were compared to the control samples. Programs results showed that impressed current is the most effective protection technique because it prevents the corrosion completely. On other hand, the efficiency of sacrificed anode technique depends on the activity of the anode material and finally, the efficiency of protected coats dependents on material base of the coat.

Keyword: Protection against corrosion; Protective coats; Sacrificed anode; Impressed current.

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	Authors:	**Larysa Sarakun, Larysa Babushka, Vasily Drapohuz, Oksana Popova**
	Paper Title:	**The Interactions between Cosmopolitanization and Migration: New Trends**

Abstract:The author made a philosophical analysis of the migration phenomenon. The problems of cosmopolitanization and migration in the context of globalization have been observed and their main vectors of interaction have been pointed out here.The new methodology is cosmopolitanization. It means the world experience and cultural infinity. Global interdependence and risks of available knowledge change social and political quality of national communities. This feature is defined as cosmopolitanization. The cosmopolitan idea spreading is related to migration mainstreaming, integration and globalization. Therefore there is a need to study interference issues of cosmopolitanization and migration, the prospects of their development in the context of globalized modernity.The migration analysis can detect the general conditions of its occurrence. It helps to consider the migration structure and make a comparative analysis of immigration forms, to establish this role in the society. The philosophical understanding of the migration phenomenon is reflected in a number of concepts, including concepts of passionary changes.The migration system in the world is characterized by close economic, cultural, political and geographical bonds. The phenomenon is associated with the term «globalization» in the context of current international relations. Nowadays migration intensifies and moves into a new stage. An essential part of immigration policy is a policy of integration of migrants, which involves targeted measures in many areas of society.In this article the author reveals interaction principles of migration and cosmopolitanization. This means that a closed society disappears forever. However, most people do not perceive it as liberation. As it was noted by Ulrich Beck, the rejection of the national paradigm is not tantamount to a global «cosmopolitanism of common good».Cosmopolitanization is a response to a changing world. How will the humanity evolve? Will migration processes, integration, interaction and people interdependence develop? Will resistance to globalization be intensified? What will be the attractor of social development?

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Keyword:cosmopolitanism; globalization; cosmopolitanization; migration; migration process; migration policy.

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	Authors:	**Rabindra Kumar, Neha Kumari, Pradeep Kumar Jain, Priyanka Mondal**
	Paper Title:	**A Single Feed Circularly Polarized Planar Antenna Array**

Abstract:A design of a circularly polarized planar antenna array of elliptical patches is presented. The designed prototype has been verified experimentally. Elliptical patches produce circular polarization by using a single feed only. A corporate feed network with quarter-wave transformers are used for uniform excitation of all the array elements. Primary advantages of the presented antenna array are structural simplicity, good circular polarization characteristics and no side lobes. Here, the design example is given for 2×2 elliptical patches at 2.8 GHz. Similar procedure can be extended for more number of array elements at the desired frequency of

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operation to cater the need of communication systems where circular polarization is essential.

Keyword: Antenna array, axial ratio, circular polarization, elliptical patch, microstrip, single feed

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Authors: **B. Pradeepakumari, Kota Srinivasu**

Paper Title: **Dam Inflow Prediction by using Artificial Neural Network Reservoir Computing**

Abstract:A multipurpose dam serves multiple modalities like agriculture, hydropower, industry, daily usage. Generally dam water level and inflow are changing throughout the year. So, multipurpose dams require effective water management strategies in place for efficient utilization of water. Discrepancy in water management may lead to significant socio-economic losses and may have effect on agriculture patterns in surrounding areas. Inflow is one of the dynamic driving factors in water management. So accurate inflow forecasting is necessary for effective water management. For inflow forecasting various methods are used by researchers. Among them Auto Regressive Integrated Moving Average (ARIMA) and Artificial Neural Network (ANN) techniques are most popular. Both of these techniques have shown significant contribution in various domains in regards to forecasting. But they have a common drawback in handling non-stationary inflow patterns. To address this drawback, in this work neural Reservoir Computing technique is used.In this work, Context reverberation network, also known as reservoir computing approach, is applied for inflow forecasting. It comprises of a dynamic neural reservoir. As the nature of a neural reservoir is dynamic, it can easily model complex non-stationary patterns along with stationary ones. Proposed model is applied on daily inflow data of Srisailam Dam which is a multi-purpose dam. Here ARIMA and ANN models are compared with Reservoir Computing model. On various evaluation parameters Reservoir computing is proved better than ARIMA and ANN.

Keyword: Water Management, Reservoir Computing, ARIMA and ANN.

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111.	**Authors:**	**C. George Christopher, J. Vidhya**
	Paper Title:	**Unauthorized Vehicle Parking Detection and Auto-Locking using an Arduino and a Relay**

Abstract:As the populace expands step by step, the quantity of vehicles are additionally expanding and this prompts numerous mishaps and traffic clogs. In this bustling world, individuals consistently use to leave vehicles at confined or no parking zones. At the point when a vehicle has been left at no parking territory, the street gets smaller and cause traffic clog. Enormous number of traffic police are sent to check the unlawful stopping and fine the proprietors with the goal that they would not stop again in no stopping zone, yet it is anything but a successful arrangement. In this manner, different advancements have been utilized for the identification of vehicles that are left at no leaving zone. In this proposed framework, vehicles which are parked at restricted area is being detected and locked using a relay.

Keyword: Confined-parking, Traffic Clogs, Detection Methods, and Locking System.

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112.	**Authors:**	**B. Nagaraj Goud, K. Shiva Shankar, B. Manideep, K. Veeranjaneyulu**
	Paper Title:	**Experimental Test on Glare Composite of an Aircraft Structure Under Tensile Strength Failure**

Abstract:A Glass Aluminum fiber metal laminate GLARE is a set of materials manufactured by strong bonding glass/epoxy layers within the metal layers. The combined set of materials will be providing the better mechanical properties and weight reduction for an aircraft structure. The fiber metal laminate model was fabricated as per ASTM standards 200×30×5mm and then the experimental test under tensile loading test was conducted by using universal testing machine UTM as observed the stress-strain curve as the failure strength of GLARE reaching point and finally obtained results. Also to determine the mechanical properties and material characteristics of the unidirectional loading on E-glass fibers used to assemble GLARE for an aircraft structure.

Keyword: Fiber metal laminate, mechanical properties, universal testing machine, tensile strength, failure.

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Authors: **Telugu Maddileti, G. Shriphad Rao, Vaddemani Sai Madhav, Ganti Sharan**

Paper Title: **Home Security using Face Recognition Technology**

Abstract:Face is the easiest way to penetrate each other's personal identity. Face recognition is a method of personal identification using the personal characteristics of an individual to decide the identification of a person. The method of human face recognition consists basically of two levels, namely face detection and face recognition. There are three types of methods that are currently popular in the developed face recognition pattern, those are Eigen faces algorithm, Fisher faces algorithm and CNN neural network for face recognition

Keyword: Face recognition, Face-detection, Eigen-faces, Fisher-faces, CNN, neural network, Residual network.

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Authors: **Evaristus Didik Madyatmadja, Astari Karina Rahmah, Saphira Aretha Putri**

Paper Title: **Application of Priority Analysis: Smart City Community Complaint**

Abstract:In this era of globalization that is happening right now, making developments in Information Technology that offers solutions to problems that occur in people's lives are important to improve available public services in the area. The development of Information Technology also gives innovation for government to improve existing public services and facilities. This report will discuss about application used by government in various regions in Indonesia in developing Smart City program that was initiated in 2014. Social Media is one of the ways and tools for community in Indonesia to give their aspiration, critic and response which aims for the improvement of government services and the development of Smart City so that they can meet the needs of the Community in their own regions. With this, responses from government is needed in accordance with the priority level of complaints given by the community through social media for the government to follow up their aspirations and complaints about the development of the Smart City.

Keyword: Smart City, Application, Complaints, Social Media, Decision Tree

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Authors: **M. Risheek Sharma, K. Akhil Vardhan, K. Sravan Kumar, B. Koteswarrao, Shijin Kumar P. S.**

Paper Title: **Human Face Identification based on Optimal Sparse Features**

Abstract:Security of human being is an important aspect in the context of data communication. To maintain security, technology is being developed from alpha-numeric passwords to biometric scanners. Recent advancement in security is the user authentication using face recognition. But the flaws in existing face recognition systems are yet to be addressed. This paper discusses solutions to the issues encountered by face recognition systems. Sparsity based classification is performed in this work. This method can handle errors occurs due to compress in and occlusion in a robust manner. We suggest a comprehensive classification algorithm characterized by sparse representation and 1l -minimization. In this method, the feature points and

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selection of features are not critical. The effect of change in occlusion can be easily addressed by using this optimal sparse representation based classification (OSRC) algorithm.

Keyword: Face Detection, Sparsity, Optimal Sparse Representation based Classification, l1–minimization.

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Authors: **Kishor N. Hendre, Bhanudas D. Bachchhav, Harijan H. Bagchi**

Paper Title: **Frictional Characteristics of Brake Pad Materials Alternate to Asbestos**

Abstract:Nevertheless, asbestos though having ample physical and tribo-mechanical properties is being banned worldwide due to its health hazardousness. Most importantly, any material replacing asbestos should have comparable friction properties. This paper aims at comparative study of frictional characteristics of asbestos base and asbestos free brake pad materials. A total of three friction materials namely AF-22 (metallic based), CL-3003 (fine brass based) and DM-6 (asbestos based) were compressed and moulded into a sample. Experiments were performed using dedicated test set-up based on Pin-on-disc principle. Coefficient of friction was compared for three materials at different conditions of sliding velocity and pressure. Experiments were performed using Taguchi's L27 orthogonal array. Ranking of the parameters have been done based on experimental results and S/N ratio analysis. The elemental composition of materials was measured by EDS technique. Scanning electron micrographs of brake pad samples were tested at different magnifications. Further investigations to evaluate wear rate, stopping distance under simulative test conditions are suggested.

Keyword: Asbestos-free, Brake Pad Materials, Friction, Pin-on-Disc Test, Taguchi Method.

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Authors: **Tee Tze Kiong, Farah Najwa Ahmad Puad, Elia Md Zain, Yee Mei Heong, Nurulwahida Azid**

Paper Title: **Cosmetology Field and It's Significance for Education and Industry Sector**

Abstract: The purpose of this paper was to identify the trends in cosmetology field. This paper also provides the definition of cosmetology, cosmetics, and other pertinent terms. Gathered articles were identified using electronic databases such as Google Scholar, Science Direct and Eric from year 2010 to 2019. These reviews found that training and earning professional licensing are crucial for cosmetologist to sustain in the beauty industry. Furthermore, these reviews bring researcher to relate that there is a lack of study in cosmetology education and teaching. Whereas, this cosmetology field is vast and growing nowadays. So that, the results of this study suggest that future study needs to be conducted to examine the educational intervention on effective learning and teaching strategies in cosmetology fields. This will provide more information required for the development of cosmetology curriculum to support students' academic interests, knowledge and skills in cosmetology.

Keyword: Cosmetology education, narrative analysis, careers, vocational education

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Authors: **Mohd Harridon Mohamed Suffian, Mohamad Dali Isa, Hazariah Mohd Noh, Nurhayati Mohd Nur**

Paper Title: **Maximum Takeoff Gross Weight of Aircraft in Search and Rescue Sorties**

Abstract: Several aircraft types are commonly used to perform many search and rescue missions throughout the world. Aircraft have been used because they are able to offer a bird's eye view of the surrounding search areas. In general, these aircraft come in various shapes, sizes and weights, and have myriad capabilities in carrying rescued and/or injured personnel and also equipment for the search and medical operations during the search and rescue sorties. For an aircraft, takeoff gross weight is important because it will affect the flying performance of the aircraft. To perform an effective search and rescue mission, the right selection of aircraft is essential such that unnecessary resources are not being wasted. In line with this notion, this study examines the distribution of the maximum takeoff gross weight of aircraft that have been typically used in search and rescue sorties. This knowledge will help in the design of future aircraft for such missions and also narrowing the selection of existing aircraft to be used on that kind of operations. It is found from the data analysis that most current operators have been using medium-haul aircraft that have a takeoff gross weight between 4,301 kg and 8,600 kg.

Keyword:search and rescue, takeoff gross weight, aircraft, performance analysis.

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Authors: **Mouleeshu Warapprabu R., Niviya Dharshini S., Pearlstone Emmanuel G., Sathish K.M., Yashar Arafath M.**

Paper Title: **Make Way: An Intelligent Real-Time Traffic Light Control System**

Abstract:Nowadays, automatic traffic light control is becoming an important requirement for travelers and

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number of road users especially for emergency service providers such as ambulance drivers, fire fighters etc... Various alternatives have been proposed, but it has certain limitations.One such example is using an RF transmitter mounted on the ambulance which will communicate with the RF receiver mounted on the signal post in the traffic control system. A special algorithm is provided to control the traffic signals automatically by pressing the key provided in the keybord on the ambulance by the driver.But in this case, there is big trouble for car accidents or road accidents, because of automatic adjustment and a large number of vehicles, and there is a problem of delay in first aid service, with these overcrowded roads. This paper describes a solution that is "Intelligent Ambulance with Automatic Traffic Control" which includes the accident detecting, alerting and tracking mechanism with an automatic traffic light controlling system to overcome this delay of first aid service. An ambulance can thereby easily finde a freeway to reach the victim in a minimal time and thereby providing first aid as soon as possible. This is possible by using an RF transmitter on the ambulance which will communicate with the RF receiver mounted on the signal post in the traffic control system. To control the traffic signals automatically, and to move towards the location in minimal time, a specific algorithm is proposed in this paper. Thus, the traffic light gets controlled by the intelligent ambulance itself, in such a way that it could provide free path to the ambulance[1].

Keyword: Arduino, RF transmitter, RF receiver.

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Authors: **Varsha H. S., Shreyanka B. Chougule, N. V. Vighnesam, Sudha K. L.**

Paper Title: **IRNSS Orbit and Clock Bias Estimation using NavIC Ground Receiver Data: Extended Kalman Filter**

Abstract:The aim of this work is to precisely estimate the IRNSS satellite's orbit and clock errors using NavIC receiver data. Orbit determination is required to precisely calculate the user/receiver position on the Earth. In this study, Bengaluru, Surat, Kolkata, and Hyderabad's NavIC ground receivers' data is considered for orbit estimation. The pseudo-range measurements received by the ground receivers have multiple errors added due to ionospheric delay, tropospheric delay, multipath delays, satellite clock errors, and some unmodeled effects. But, the major factor accounting for errors is the satellite clock error. Hence, along with position and velocity of the satellite, even the clock correction is estimated using Extended Kalman Filter (EKF). EKF is a sequential estimation algorithm which estimates satellite position, velocity and clock error at each time instant. In this paper, results of all seven IRNSS satellite's orbit determination are discussed.

Keyword: Clock bias, Estimation algorithms, Extended Kalman Filter, IRNSS, NavIC receiver, Orbit Determination, Satellite Position Estimation

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Authors: **Susarla Venkata Ananta Rama Sastry, B. Sarva Rao, G. Ravi Kishor**

Paper Title: **Optimization of Biodiesel Transesterification using ANN and Fuzzy Logic**

Abstract:The high energy demand in domestic sector coupled with pollution brought by extensive exploitation of conventional fuels in an industrialized world makes it mandatory to boost renewable energy sources having lesser environmental impact than non-renewable ones. In this regard bio-diesel can be considered as a more reliable resource of energy that can be used readily in the existing engines. Biodiesel is formed by transesterification reaction of alcohol and triglycerides under a catalyst. In this paper, Bio-diesel is produced from karanja (pongamia pinnata) oil in sono reactor at varied methanol-oil ratios and varied catalyst ratios. Yield was found at different molar ratios of methanol:oil (6:1; 4.5:1; 3:1), different KOH concentrations (2.0 wt %; 1.5 wt %; 1.0 wt %) and different times (15 min; 30 min; 45 min; 60 min). The biodiesel thus obtained conformed to ASTM D6751 standards. The optimum conditions of maximum yield are determined at 50o C temperature, 45 min reaction time, 4.5:1 methanol:oil ratio and 1.5% of KOH. The results obtained are well in accord with the literature. Also ultrasonic vibration used for production of biodiesel proves to be promising technique. The biodiesel thus produced is analyzed using various tests to obtain its properties.Further optimization techniques namely Artificial Neural Network and Fuzzy Logic have been applied for modeling the reaction and finding the optimum yield at different conditions. The yield predicted by using ANN and Fuzzy logic was compared with the experimental yield. The ANN and Fuzzy can precisely calculate as per the experimental data with R2 = 0.998 and R2 = 0.995, respectively.

Keyword:ANN; Biodiesel; Fuzzy logic; Karanja; Transesterification.

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Authors: **Emetere Moses E., Adeyemo Nehemiah**

Paper Title: **Spectral Filtering of Photovoltaic Cells using Novel Bio-Filter: Silver Coated Hibiscus Extract using Butanol Solution**

Abstract:The adaptability of the solar photovoltaic cell is huge but not without its peculiar challenges. It has been reported that the patronage of photovoltaic (PV) in Africa is drastically dropping due to the dismal performance of PV in the first year of purchase. In this research, the bio-filter was proffered as an external solution to improving the efficiency and longevity of PV module. It was observed that the bio-filter improved the efficiency of the polycrystalline panel by 60%. This means that a good percentage of the solar IR radiation can be reflected from this proposed bio-filter. This research further affirms the significance of plants as a veritable tool to protect the PV panel. Hence, this bio-filter is adjudged to be cost-effective (i.e. affordable), universal usability and eco-friendly in both the long and short term.

Keyword: Photovoltaic, bio-filter, spectral filtering. Solar energy, energy

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Authors: **Ushapreethi P, Lakshmi Priya G G**

Paper Title: **Efficient Sparse Representation based Action Recognition in video**

Abstract:Human Action Recognition (HAR) is an interesting and helpful topic in various real-life applications such as surveillance based security system, computer vision and robotics. The selected features and feature representation methods, classification algorithms decides the accuracy of the HAR systems. A new feature called, Skeletonized STIP (Spatio Temporal Interest Points) is identified and used in this work. The skeletonization on the action video’s foreground frames are performed and the new feature is generated as STIP values of the skeleton frame sequence. Then the feature set is used for initial dictionary construction in sparse coding. The data for action recognition is huge, since the feature set is represented using the sparse representation. To refine the sparse representation the max pooling method is used and the action recognition is performed using SVM classifier. The proposed approach outperforms on the benchmark datasets.

Keyword: Skeletonization Sparse representation, action recognition, sparse coding, sparse dictionaries, SVM classifier.

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124.

Authors: **K. Tamil Selvi, R.Thamilselvan**

Paper Title: **Software Defined Networking and Network Function Virtualization for Service Providers using Network Slice AS a Service**

Abstract: The traditional network is configured based on the prescribed network requirements. Sometimes the resources of the network are underutilized and at sometimes there may resource starvation because of the static configuration of the network. As against traditional network, which is operated either as dedicated network or as an overlay network, network services can be operated over a shared network infrastructure. Thus maximum resource utilization under minimal infrastructure cost can be achieved. The on-demand network requirement can be configured dynamically using network slice. The backbone of the rapidly evolving 5G technology is network slice and service networks can be benefited from it. Different network function for multiple tenants can be enabled customized using network slice with each slice operating independently. Network slice can be offered as a service to meet various requirements from the network slice tenant with different granularities. The Software Defined Networking and Network Function Virtualization are the enabling technologies for network slice. This paper discusses various network slicing use case requirements. And also OpenFlow based software defined network environment is simulated to validate the discussions. Experimental results show that the efficiency of the service network is maximized with improved reliability of service.

Keyword:SDN, NFV, Network slice, 5G

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125.	**Authors:**	**M.Vijayalakshmi , V.Rengarajan , S.Mohanram , P.K.Mani**	
	Paper Title:	**Power Factor Control in Multilevel Inverter with Dc Link Switches**	
	Abstract:The technology introduces a DC linked multi-level inverter topology to raise level of the efficiency and power factor. It consists of four active and four DC link switches for a proposed 5 level inverter .The number of level can be increased to 9, 13 and more levels as required. It uses a Phase Opposition Disposition method with a single carrier to control the switches. **Keyword:**multilevel inverter, total harmonic distortion, DC links switches, single carrier. **References:**1. "A power-line conditioner supported flying- electrical device construction voltage supply device with phase-shift SPWM" Y. Liang, C.O.Nwankpa, IEEE Trans. Industrial Electronics, Vol. 36, pp. 965-971, 2000. 2. "Control of a Single- Phase Cascaded H- Bridge construction electrical converter for Grid- Connected electrical phenomenon Systems", E. Villanueva, P. Correa, M.Pacas, IEEE Trans. Industrial Electronics, Vol.56,pp.4399-4406,2009. 3. "Multilevel transformer less topologies for single-phase grid-connected converters" O. Lopez, R. Teodorescu, J.Doval-Gandoy, IEEE.IECON 2006, pp. 5191-5196, 2006. 4. "The analysis of conduction and switching losses in multi-level inverter system", Tae-Jin Kim, Dae-Wook Kang, Yo-Han Lee and Dong-Seok Hyun, PESC. 2001 IEEE Vol. 3, pp1363-1368,2001. 5. "Comparison of Neutral-Point- Clamped, Symmetrical, and Hybrid Asymmetrical Multilevel Inverters", D.A.B. Zambra, C. Rech, J.R. Pinheiro, IEEE Trans.Ind. Electron., Vol.57,no.7,pp2297-2306,July2010. 6. "Analysis of SFCL's in DC System with Renewable Energy Sources" S.Mohanram, R.Chandralekha ,in International Journal of Engineering and Technology 7(6):2084-2091 • January 2016	**738-741**
126.	**Authors:**	**G. Vishnuvardhan Rao, A.Mohammed Abbas,S. Palanivel**	
	Paper Title:	**Design of Multi Modulation Scheme for SoftwareDefined Radio using FPGA**	
	Abstract: Undersized satellites are bringing a critical part in spaceship missions on account of their cheap, minute in size, less weight. All the more no of little satellites are flying together can resolve complex missions, e.g., Data trade, high exactness in route. A raising number of satellites activity on lower earth circle for complex missions abuse the SDR for correspondence in light of its consistency and flexibility . This paper shows a total programming characterized radio (SDR) model for entomb satellite interchanges (ISCs) and recreation on a Xilinx ISE programming utilizing verilog HDL. The proposed SDR baseband segment for transmitter has an a lesser measure of intensity use, separately, which is proper for low power little satellite frameworks. Programming Defined Radio (SDR) has been one of the new methods which lessens the equipment multifaceted nature and furthermore change the route for conventional remote correspondence frameworks work. Planning a multi-tweak plans framework in term of FPGA makes it adaptable and reusable. This task introduces the plan of baseband handling segment of Software Defined Radio utilizing QPSK, BPSK and encoding plan utilizing Hamming code. **Keyword:**Software defined radio (SDR), Field Programmable Gate array (FPGA), Low Density Parity Check (LDPC) code, Inter Satellite Communication (ISC) **References:**1. "Implementing PSK MODEMs on FPGA using Partial Reconfiguration"Archana M. Lalge, Anjali Srivastava, SheetalU.Bhandari ,P.C.C.O.E, SavitribaiPhule Pune University ,International Conference on Computing Communication Control and Automation 2015. 2. KavyashreeD, Umeshraddy "SDR IMPLEMENTATION OF QPSK MODEM WITH AWGN", International Journal of Scientific & Engineering Research Volume 8, Issue 5, May-2017. 3. "Power consumption reduction in a SDR based wireless communication system using partial reconfigurable FPGA", International Journal of VLSI design & Communication Systems (VLSICS) ,, Neenu Joseph, Dr. P Nirmal Kumar Vol.3, No.2, April 2012. 4. "Design and Hardware Implementation of Reconfigurable Nano Satellite Communication System Using FPGA Based SDR for FM/FSK Demodulation and BPSK Modulation" Dr.Sheeba Rani J , Vidhya P, Nivin R , International conference on communication and networks 2016	**742-744**
127.	**Authors:**	**K.K. Bozymov, E.G. Nasambaev, A.B. Akhmetalieva, A.E. Nugmanova**	
	Paper Title:	**Exterior Features and Productive Qualities of Young Beef Cattle of Various Genotypes**	
	Abstract:The article describes the issues of comparative assessment of economic and biological features and productive qualities of beef cattle bred in Western Kazakhstan. The authors present norms and rations for feeding young animals of different genotypes. The results of studying the exterior features, body weight and average daily gain of Kazakh Whiteheaded breed and foreign Hereford and Aberdeen Angus breeds are presented. The authors conduct a comparative analysis of body weight and average daily gain of young animals of different breeds grown in the semi-desert zone of Western Kazakhstan. It has been found that during the growing period from 8 to 15 months, the average daily gain of body weight of the Hereford breed was 658.1 g for bull calves and 587.1 g for heifers, of the Aberdeen Angus breed – 603.8 g and 500.9 g respectively and of the Kazakh Whiteheaded breed – 758.8 g and 561.1 g respectively. **Keyword:**genotype, Hereford breed, Aberdeen Angus breed, Kazakh Whiteheaded breed, selection, acclimatization, exterior, average daily gain, body weight.	**745-750**

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128.

Authors: **Mohammad Imran, Sangkertadi, Cynthia E. V. Wuisang, Abdul Rahmat**

Paper Title: **Thermal Analisys of the Increase in Ambient Temperature Due to Motor Vehicle Activities**

Abstract: Global warming has become a problem of world wide, because it endangers living things. The consequences of global warming include the increase of the earth temperature and climate change. The increase of temperature (heating) in a city which is referred to urban heat island (UHI) is also the same problem in architecture. This research aimed to analyze the ambienttemperature of the UHI due to the motor vehicleactivities. Samples were taken from several locations: (1) Bahu Mall Parking area; (2) Manado Town Square 2 parking area; (3) along the Wolter Monginsidi street in front of Bahu Mall and (4) along the Piere Tendean street in front of Manado Town Square. This research used a quantitative method with a field survey. This research found that the ambient temperature increased when motor vehicles were stationary with engine on or moved. The temperature increased due to the heat from the engine and the reflection of the sun's heat from the body of the vehicles. The heat level obtained from the survey was 34,8 0C to 39,4 0C. For this reason, a specific material for vehicle's body is needed to prevent the increase of ambient temperature.

Keyword:urban heat island, thermal analisys, motor vehicle activities.

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129.

Authors: **S. Kandwal, S. Singh, Bhupendra kumar**

Paper Title: **Processing and Characterization of Natural Fiber Reinforced Polymer Composite**

Abstract:Polymer materials synthetic fibers, for example, glass and carbon gives point of interest of high stiffness and strength to weight proportion when compare with conventional construction materials, for example wood, cement and steel. The accessibility of natural fibers and comfort of manufacturing have attempted researchers to try locally accessible inexpensive fibers and do study for their feasibility of strengthening purpose. Accordingly, many researchers do broad study on the properties of polymer matrix composite. The synthetic fiber substituting with the natural fiber for example, jute, sisal, pineapple and bamboo. The natural fiber removed by retting and manual procedures were exposed to soluble base treatment. this study is concerned with the investigation of mechanical properties of Grewia Optiva and jute fiber with epoxy resin matrix-based polymer composites. study investigate the tensile, bending and abrasion behavior of composites material made by grewia optiva and jute into epoxy resin. result shows that the better tensile strength of Grewia optiva fiber composite.

Keyword: Grewia optiva, jute, Epoxy, Tensile Strength.

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130.

Authors: **Tamilvanan.A, Sampath Kumar.K, Sanjaya Krishnan.K.B, Saravana Kumar.D**

Paper Title: **Locomotive Lifter for Parking in Congested Places**

Abstract:Locomotive Lifter is an independent attachment implied on the vehicle body frame in order to lift and move the vehicle at right angles from it's exact position using the retractable arm provided with the wheel dolly for parking in congested places. It works on the principle that the fluid pressure (hydraulic or pneumatic) applied in the piston cylinder respectively pulls the arm and lifts the vehicle, due to small area of the wheel dolly the effort (force applied) to push the vehicle is less irrespective of the immense structure of the vehicle. Now-a-days the most common issue probably dealt in metropolitan cities is that the mishap in parking the car in the portico or on the adjacent road side parallelly with part of the car body to be hanging outside the passage. Merely, there is enough of space to park the car but to say it is hardly occupied. The unoccupied space is due to irregular parking of the other cars crossing the parking lanes on the either sides in parallel parking or the standing pillar in indoor parking which does not allow the car to turn with it's free radius of curvature. In order to park the car perfectly one has to arrest the position of the either axial of the car and the other axial wheel has to be tilt at right angles to make an arc to park. But this case isn't possible i.e. tilting the wheels at right angle. Besides the help of this "Locomotive Lifter" we can rotate the position of the car in all 360'degree direction, either the car can be moved or the car can be rotated.

758-760

Keyword: Merely, there is enough of space to park the car but to say it is hardly occupied.

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131.

Authors: **Harsh Kumar, Mayank Sethia, Himanshu Thakur, Ishita Agrawal, Swarnalatha P**

Paper Title: **Electroencephalogram with Machine Learning for Estimation of Mental Confusion Level**

Abstract:Estimating the mental state of an individual is crucial to many applications. A quantitative measure of the confusion one faces while doing a task can be useful in determining which subtask is the most difficult. This paper thus aims to develop an algorithm to estimate the confusion score using EEG signals collected using a Neurosky Mindwave Headset. Also, a full contextual audio based confusion score is generated to improve the system's resilience. In this paper, the final algorithm is used to propose an EEG based system to enable the UI/UX testing which can help in confusion estimation and thus provide a qualitative means to measure the attention and concentration level of people which can be extended to various applications. The raw EEG data collected from the device was used to calculate the confusion score using various Machine Learning algorithms. This brain computer interface (BCI) system can be extended for calculating the confusion score of a person which can be used for various applications such as teaching, child health monitoring, suicide prevention, mental health analysis etc. The brain computer interface thus calculates the confusion score and based on the threshold value of the attention and concentration level it performs certain actions such as sending messages and alerts to emergency contacts. This is further extended to solve the problem of Usability testing in Human Computer Interaction.

761-765

Keyword: Brain Computer Interface, confusion score, attention level, concentration level, mental health, human computer interaction

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132.

Authors: **A Vivek Anand, M Sathyanarayana Gupta, J Sahana, P Shanmuga Priya, V Hariprasad**

Paper Title: **Performance Augmentation of V- Bladed Savonius Wind Turbine**

Abstract: Fossil fuels, although an essential source of energy, have been a major cause for the degradation of the environment. The negative impacts created by these fossil fuels have forced mankind to adopt alternate measures for energy production. Renewable energy resources have been optimal in replacing the conventional energy sources as they are environmental friendly. Wind energy has been harnessed effectively all over the world for the production of electric power. Wind turbines extract the kinetic energy of the wind and convert it into mechanical energy and further convert it into electrical energy using generators. In this work, we have compared the performance of the Savonius turbine with five different blade designs. Initially, the flow around the different blade designs has been analyzed through computational fluid dynamics. Subsequently, the turbine blades were fabricated using light-weight materials like Aluminium sheet metal and tested in the low speed wind tunnel. The performance of the turbine has been characterized by measuring its rotational speed (in terms of RPM) and the amount of torque produced at different wind velocities . Based on the wind tunnel tests we were able to conclude that among the five blade designs , the V-shaped blade with an interior angle of 60˚has the highest coefficient of power of 0.09 at 12.6 m/s.

Keyword: Coefficient of Power, Savonius Wind Turbine.

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Authors: **Sabitha Banu. A, Padmavathi Ganapathi**

Paper Title: **Detection of Spoofed IP nodes using BAT Algorithm and Extreme Learning Machine**

Abstract:IP spoofing is known as the most important cyber-attack which is the source for DoS or DDoS attacks where the attacker is hidden inside the network and makes the computer resource services unavailable to the users. The attacker once done with spoofing the IP address will start to flood the system with keeping on sending requests and make the network bandwidth slow to the extent. This paper contains the literature study of the different types of defence mechanisms from different authors used few decades before to detect and mitigate the Spoofed IP nodes at router, host level and recently some author come up with ideas of using computational intelligence methods for detecting the different types of attacks in wireless communications which results in accurate prediction. This paper provides creating a threat model of detecting the Spoofed IP nodes among 105 network wireless communication scenario using computational intelligence algorithm, the features are selected from the simulated raw data and preprocessed by using BAT optimization algorithm and features are converted to ELM readable format and then they are trained and learned using Extreme learning machine algorithm to predict the accurate detection of the Spoofed IP nodes in the wireless communication network scenario. The proposed method provides high accuracy in detection of Spoofed IP nodes with respect to some performance metrics like end to end delay, throughput, packet delivery ratio, packet drop ratio and it is compared with the KNN-SVM exiting model proved the results.

Keyword:IP Spoofing, Feature Selection, BAT algorithm, Extreme Learning Machine.

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Authors: **Dao Ngoc the Luc, Truong Quang Hai, Truong Hoai Chinh, Dao Ngoc The Vinh**

Paper Title: **Connection of Reinforced Concrete Flat Slab and Concrete Filled Steel Tube Column: Proposed Structures, Experiment, Simulation and an Analytical Prediction Model for Shear Strength**

Abstract:Concrete filled steel tube column (CFST) combined with reinforced concrete (RC) flat slab provides potential structural solution to replace the traditional structures in high-rise buildings. The CFST column – RC slab connection is the key factor for this structure type to work effectively. This paper proposes an improved structure for connection of concrete filled steel tube column and reinforced concrete flat slabs using steel plate shear-head. The experiments of two large-sized specimens are performed to assess the capacity and reliability of the proposed connection. Numerical simulation using Abaqus is also performed to validate the test results. Based on experimental and numerical simulation results, an analytical prediction model to estimate the punching shear capacity of the flat slab is presented.

Keyword: Concrete filled steel tube, Reinforced concrete, Column, Flat slab, Connection.

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135.

Authors: **Palani S, Sathiyamoorthy V, Balamurugan S, Sivakumar A, Arumugam K**

Paper Title: **Rectification of Turbo lags in Turbocharger**

Abstract:A turbocharger is the most used component in an automobile. It is widely employing in marine engines and aircraft engines to provide dense air to the combustion chamber. Due to the friction between the bearings and the own impeller weight of the rotors of the turbine and compressor turbo lag is caused. To rectify the turbo lag, we proposed magnetic Levitation principle. The use of magnets can reduce friction to a great extent, further it increases the efficiency of the turbocharger. The implementation magnetic levitation concept in the conventional turbocharger reduces the friction to a greater extent and decreases the turbo lag since the shaft of the turbocharger levitates freely and so less power is required to drive the shaft. The bearings are replaced by levitation concept hence there is no requirement for lubrication of bearings thus reducing the weight, space occupied, and making the turbocharger more efficient than the present one.

Keyword: Combustion chamber, Magnetic levitation, Turbocharger, Turbo lag.

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136.

Authors: **Reena Lokare, Sunita Patil**

Paper Title: **Prediction and Recommendation of Precision Medicine for Cancer using Machine Learning Techniques**

Abstract: Cancer is one of the major causes of death by disease and treatment of cancer is one of the most crucial phases of oncology. Precision medicine for cancer treatment is an approach that uses the genetic profile of individual patients. Researchers have not yet discovered all the genetic changes that causes cancer to develop, grow and spread. The Neuro-Genetic model is proposed here for the prediction and recommendation of precision medicine. The proposed work attempts to recommend precision medicine to cancer patients based upon the past genomic data of patient's survival. The work will employ machine learning (ML) approaches to provide recommendations for different gene expressions. This work can be used in caner hospitals, research institutions for providing personalized treatment to the patient using precision medicine. Precision medicine can even be used to treat other complex diseases like diabetes, dentistry, cardiovascular diseases etc. Precision medicine is the kind of treatment to be offered in the near future.

Keyword:genome, oncology, neuro-genetic model, precision medicine, machine learning.

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Authors: **Muhammad Roy Purwanto, Supriadi, RahmaniTimoritaYulianti**

Paper Title: **The Use of Entrepreneurship Education in Community Empowerment at Lintangsongo Islamic Boarding School of Yogyakarta**

Abstract: This paper discusses entrepreneurship education at Lintang Songo Islamic Boarding School which is taught to students and the surrounding community. Islamic boarding schools are the oldest educational institutions with unique and distinctive characteristics in Indonesia. It came into existence hundreds of years ago. According to historical records, the first Islamic boarding school in Indonesia was founded by Syeh Maulana Malik Ibrahim in 1399 AD to spread Islam on Java. Therefore, it has become a part of Indonesian education for a long time. Lintang Songo is one of such Islamic Boarding Schools that aims at surviving with consistency in carrying out its social functions. Furthermore, the uniqueness of its pesantren's activities and programs is associated with entrepreneurship education for students and society. This paper, therefore, discusses entrepreneurship education to improve the economy of students and society. This field research uses qualitative methods in analyzing data. Meanwhile, data obtained by observation, documentation and interviews. The informants of this study consisted of 12 people, from the head of the LintangSongo Islamic Boarding School, the teachers, students and the community. Several questions were asked to informants, such as what economic empowerment program was developed at LintangSongo Islamic Boarding School, why LintangSongo Islamic Boarding School developed economic empowerment education. The answers to these questions are then analyzed using qualitative methods.The results showed that LintangSongo Islamic Boarding School succeeded in economic empowering of its students and local communities with entrepreneurship education, which is taught as the curriculum of LintangSongo Islamic boarding school. Economic empowerment conducted by LintangSongo Islamic Boarding School for its students and community is agricultural empowerment, plantations, animal husbandry, forestry, fisheries, home industry, food, and convection.

Keyword: LintangSongo Islamic Boarding School, entrepreneurship, economy, empowerment of the community.

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30. Interview with KH Heri, Educator of the LintangSongo Islamic Boarding School, on April 10, 2019

138.	**Authors:**	**Zelealem Haftu, N.Rao Cheepurupalli**	
	Paper Title:	**Petrographic Characterization of Hydrothermal Gold Deposits in Adi Gozomo Area, Northwestern Tigray, Ethiopia**	

Abstract: Gold mineralization in Adi Gozomo area in northwestern Ethiopia was studied through petrographic analysis from both surface and core rock samples. Mineralization is associated with Neoproterozoic basement rocks comprised of metavolcanic, metasedimentary rocks and intrusives. Four phases of deformation and development of NE-SW foliation and shear zones were some of the common geological structures. The hydrothermal gold deposit s cramped to shear zones, 2nd generation quartz veins, 4th phase of deformation, silisifed and carbonatized alteration zone. Based on decreasing order of abundance the ore assemblage of the area includes pyrite, chalcopyrite, sphalerite, pyrrhotite, arsenopyrite and gold. The petrographic data indicates that the deposit is hydrothermal vein related type and an island arc tectonic setting. The mineralization is comparable with other known orogenic sulfide deposit types of the country in particular and Arabian-Nubian Shield in general.

Keyword: Mineralization, Petrography, Hydrothermal, Adi Gozomo, Tigray

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139.	**Authors:**	**Angelo P. Asignacion, Marvin O. Mallari, Reynaldo Gomez, Jr., Michael John M. Villar, Ryan John L. De Lara**

	Paper Title:	**Assessment of a Network Infrastructure: A Basis for New Network Topology Proposal**	
	Abstract: Colegio de Sebastian (CDS), being a young academic and business entity, is in the process of developing its operations to serve its clients' satisfaction. This means that it must adapt itself to changes and improvements to survive the tough competition of private institutions. Effective communication in any business is a vital consideration that an owner must prioritize. Most growing businesses today are inclined to the use of technology to enhance the effectivity of their communication, and this entails the structuring of their computer network. In line with this, an assessment of the current network infrastructure was done at CDS to determine the need for new network topology. Through conducted surveys, CDS' network infrastructure was found out to have problems in terms of its topology that stems out to some issues like connectivity intermittence. To be able to provide a solution to such problem, a VLAN –based topology was proposed that includes topology that aims to achieve the four characteristics of good network architecture which are fault tolerance, scalability, quality of service and security. This research effort is to emphasize that properly planning an institution's network infrastructure is essential to serve its purpose optimally. **Keyword:**computer networks, VLAN, ANOVA, network topology, network architecture. **References:** 1. C. Boyaci and A. Aksu, “The Importance Of Communication Within Organizations: A Research On Two 5 Star Hotels In Antalya Region,” … Adm. …, pp. 3–5, 2000. 2. D. June and J. Axen, “The Importance of Effective Communication,” What they Didn’t Teach Acad., pp. 131–132, 2013. 3. Ŕ. Âñûm , “Importance_of_Communication_in_Society.” Importance of Communications in Sports., pp. 51–57, 2017.. 4. H. J. Yang, “Current status and needs of educational computer network system for secondary industrial arts education in Taiwan , Republic of China,” 1991. 5. M. Greenberger, J. Aronofsky, J. L. McKenney, and W. F. Massy, “Computer and information networks,” Science (80-.)., vol. 182, no. 4107, pp. 29–35, 1973. 6. Cisco Press, “Introducing Network Design Concepts,” pp. 1–48, 2014. 7. C. E. Caicedo and W. Cerroni, “Design of a computer networking laboratory for efficient manageability and effective teaching,” Proc. - Front. Educ. Conf. FIE, pp. 1–6, 2009. 8. S. Ganguly, “COMMUNICATION MEDIA, SYSTEMS AND STRATEGY,” pp. 141–154.	**808-812**
140.	**Authors:**	**Aminjanova S.I., Muratova M.I., Mirzajonova S.B., Karimova T.P., Saidova M.S.**	
	Paper Title:	**Research of Sulfuric Acid Leaching of Copper Off-Balance Ores**	
	Abstract: In this article are considered possibility of drawing into treatment off-balance copper ore for the purpose after extraction from their valuable components. On the basis of learning chemical and mineralogical compounds off-balance ores are defined, what optimal ways their treatment are piles leaching. Shown results by sulfuric acid leaching minerals of copper considered in consist of off-balance ores and defined, what optimal conditions sulfuric acid leaching are concentration sulfuric acid 50-75 g/l, duration 15 days, degree of extraction oxide copper from solution is 98,5-99%, sulfuric copper is 5,6% **Keyword:**off-balance copper ores, harmful influence, leaching process, heap leaching organization (HL), iron (III) sulfate solution, copper recovery degree, dynamic equilibrium of leaching process. **References:** 1. Sanakulov K.S. Scientific and technical bases of processing of wastes of mining and metallurgical production. - T.: FAN AN RUz, 2009. - 405 p. 2. Matkarimov, S. T., Nosirkhudjayev, S. Q. U., Ochildiyev, Q. T., Nuraliyev, O. U. U., & Karimdjonov, B. R. (2019). Technological processes of receiving metals in the conditions of moderate temperatures. International Journal of Innovative Technology and Exploring Engineering, 8(12), 1826–1828. https://doi.org/10.35940/ijitee.L2856.1081219. 3. Matkarimov S.T., Berdiyarov B.T., Yusupkhodjayev A.A. “Technological Parameters of the Process of Producing Metallized Iron Concentrates from Poor Raw Material,” Int. J. Innov. Technol. Explor. Eng., vol. 8, no. 11, pp. 600–603, Sep. 2019. 4. Dementyev V.E., Druzhinin G.J. Gudkov S.S. Kuchny leaching. - Irkutsk: JSC "Irgiredmet," 2004. -352 p. 5. K.S. Sanakulov et al. Heap leaching of gold from multi-tier stacks. -T.: "FAN," 2010. - 304	**813-816**
141.	**Authors:**	**S.V.S.S. Srinivasa Raju, N.Sandeep**	
	Paper Title:	**Optimizing Process Parameters of Spark and Wire-Cut Edm through Anova using Stainless Steel Aisi 316 Material**	
	Abstract: In the present research work, Stainless Steel AISI 316 as per ASTM A 276 has been employed as the base material to perform Spark and Wire-Cut EDM. The main agenda behind performing Spark and Wire-Cut EDM on Stainless Steel AISI 316 is to find out the effect of machining parameters like surface roughness (SR) and MRR (Material Removal Rate). In-case of wire-cut EDM, brass wire) of 0.25 mm diameter is used as a tool and distilled water is used as dielectric fluid and experimental process parameters like Current (A) (2, 3 and 4 Amps), Pulse ON time (B) (25, 30 and 35 μs) and Wire feed rate (C) (40, 60 and 80 mm/sec). Similarly for spark cut EDM copper rod of 12 mm diameter and 65 mm length. Process parameters like Current (A) (6, 12 and 16 Amps), Voltage (B) (30, 35 and 40 Volts) and Pulse ON time (C) (50, 100 and 200μs) were maintained during	**817-821**

the experimentation. Statistical tools ANOVA & L-9 Orthogonal Array (OA) have been employed to optimize the machining parameters like Surface Roughness (SR) and MRR (Material Removal Rate).

Keyword:SR, MRR, Spark EDM, Wire-cut EDM, L-9 orthogonal array.

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142.

Authors: **Jayant Kumar Rout**

Paper Title: **Reduction of Energy Hole in WSN**

Abstract:Energy hole problem in the wireless sensor network (WSN) is a critical issue due to the energy discharge of the sensor nodes in a rapid manner which lies closer to the sink. This is because of the fact that nearer sensor nodes send their own information as well as the information received from other regions to the sink. After sometime these sensor nodes start losing their power levels and become incapable to transfer data to sink and perform other activities despite the fact the energy of nodes in other regions are still unused which further disturbs the network performance. In this article, we have proposed a Concentric Layered Hexagonal Network Division Approach (CLHND) for solving energy hole issue. Initially, the network is divided into concentric hexagons and each hexagon act as a different layer. After that, each hexagon is divided into six equal portions. In the subsequent stage, the larger layer will be selected from all other layers. Now to decrease additional energy discharging from this layer, numerous sensor nodes positioned. In the final phase to prevent the energy hole issue, a suitable directing and ordering have been done which further improves network lifetime. The simulation results showed that the proposed CLHND approach has resolved the energy hole issue as compared to the existing techniques such as HRTBR and SEHP.

Keyword:WSN, Clustering, Energy hole, Hexagon Network, Layered approach.

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Authors: **K.R.Jansi, S.V.Kasmir Raja**

Paper Title: **Towards Developing Secure Data Aggregation with Integrity Verification Model (SDA-IV) in People Centric Sensing Systems**

Abstract:In present scenario of vast developments in wireless communication methods, embedded device based operations and mobile communications, sensor based techniques are widely adopted. Such systems are termed as People Centric Sensing Systems, which become very popular and acquires greater attention of researchers recently. However, security and privacy in transmitting data has been the major issue in People Centric Sensing Network (PCSN). For handling that problem efficiently, this paper presents a model called Security Data Aggregation and Integrity Verification (SDA-IV) model for providing privacy preserved data sharing between devices in PCSN. A new peer-to-peer oriented secure data sharing is achieved with the proposed model by making the user to shares their data randomly with other nodes along with the incorporating of integrity checking conceit. Moreover, the work comprises four phases: Initial Setup, Data Division and Encryption, Data Aggregation and Integrity Verification. Homomorphic Message Authentication Code is user for privacy preserving process and Hashing Functions are incorporated for integrity verification of shared data. Furthermore, the efficiency of the proposed SDA-IC model is evidenced using simulation results and comparative evaluations.

Keyword: People Centric Sensing Network, Privacy Preserving, Secure Data Aggregation, Integrity Verification, Homomorphic Encryption and MAC.

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Authors: **S John Joseph, S Godfrey Winster**

Paper Title: **Cloud Based Predictive Model for Airborne Disease Based Healthcare Data**

Abstract: Nowadays, the airborne particles have major health impact when it spreads in human, plant and animal beings. Infectious diseases spreads from these particles which are exhaled directly into the air through the exertions of coughing, breathing, talking and sneezing etc. According to the report from World Health Organization (WHO), More than 30 infectious diseases have arrived to harm the health of people in the past years. There's no medical attention for several infectious diseases to take prevention and remedy. India have lack of healthcare data to take control of the endemic infectious diseases. This paper uses predictive model which is provide a preventive guidance and suggestions for predicted Airborne diseases through machine learning algorithms. Azure machine learning studio is a cloud based environment which provides machine learning algorithmic approaches to make an intelligent model based solution to solve the particular domain based problems. This proposed model will produce an efficient outcome and helps to take better protection from the infectious diseases.

Keyword: Cloud computing, Health care Analytic, Machine Learning, Predictive Analysis, Disease prediction

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Authors: **Ahmed M. Issa, Mohamed M. Salem, Mohamed T. Mostafa, Hamed M. Hadhoud, Hatem H. Ghith**

Paper Title: **Performance of Shear Reinforcement against Punching Shear Loads**

Abstract:This research targets to maximize the ductility and strength of the reinforced concrete flat slabs. However, to be efficient, the shear reinforcement must be anchored well in the tension and compression zones of the slab. The test results on the slab-column connection models which provided with shear reinforcement are introduced in this study. The benefits of using shear reinforcement are to reduce the slab thickness, and to minimize both the cost and the total weight of the structure. Twelve flat slab specimens have been tested to study the effect of different types of steel RFT on the punching shear of the flat slab. The experimental parameters include no shear reinforcement which study the advantage of using tension RFT ONLY against punching shear, no shear reinforcement which study the advantage of using compression RFT against punching shear, shear RFT (Vertical Stirrups) which study the effect of using shear RFT with constant distribution 0.5d, and a new distribution of shear stirrups which study the effect of using new different width & spacing of vertical stirrups. The twelve specimens were loaded with concentrated load at the mid span until failure. The general behavior of the deformation of the tested slab specimens was examined and recorded (cracking, deflection, and strain in both steel and concrete). A comparison established between the experimental and the numerical-theoretical results obtained from applying the punching shear strength formula given in design codes, and finite element modeling analysis; ABAQUS 2017 software package was used for this analysis. A total of six building codes were examined with regard to their provisions concerning the punching shear. A comparison had been made between the research test results and the codes equations to improve the methods of the analysis about the flat slabs. This

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study aimed to improve the punching shear capacity of flat slab which leads to more accurate results compared with the codes predictions. To achieve this aim, an experimental and numerical study was carried out for this investigation.

Keyword: Flat Plates; Punching Shear; Slab-Column Connection; Shear Reinforcement; Vertical Closed Stirrups.

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146.	**Authors:**	**Ruzieva Dilnoz Isamjanovna, Abdullaeva Shahzoda Abdullaevna, Abdullaev Farhod Abdurashidovich**
	Paper Title:	**Methods of Teaching University Students and Students of the Continuing Education System using Intelligent Information Systems**

Abstract:This article was written with the aim of theoretically substantiating, developing, and testing experimental methods for teaching university students and students of the advanced training system for computer specializations using intelligent information systems. The following tasks are solved in the article as: 1. To analyze the theoretical and methodological foundations of the use of ICT in teaching 2. To design and implement an intelligent information system in students' training that demonstrates the didactic potential of these systems. 3. To substantiate the criteria for the levels of understanding of university students and students of the advanced training system of educational material and formalize them, laying in the capabilities of an intelligent information system. 4. To develop methods and means of teaching university students and students of the continuing education system using intelligent information systems. 5. Experimental search to verify the effectiveness of the application of the developed methodology. Based on the problem, a training methodology was developed, didactic foundations were determined and conclusions were drawn.

Keyword:information system, ICT, continuing education system, media materials, intelligent systems.

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Authors: **B. Gnana Priya, M. Arulselvi**

Paper Title: **3d Image Generation from Single 2d Image using Monocular Depth Cues**

Abstract: There has been a tremendous increase in the popularity of 3D hardware such as TV's, Smartphone's, gadgets for gaming, medical equipments, 3D printing and many more. 2D to 3D conversion is applied at various levels to get 3D content. In this paper, 3D image is generated from a single 2D image. we try to convert our own Karate and Bharathanatyam (KB) Dataset which contains both indoor and outdoor poses to 3D. Here, Watershed algorithm is employed to segment the image. Depth map is generated by sharpness and contrast as depth cues. The 3D image from single 2D image is created by depth image based rendering method.

Keyword: 2D to 3D conversion image conversion, depth cues, DIBR, KB Dataset, 3D Basics, Watershed algorithm.

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148. **Authors:** **Anton Nesterenko, Viktor Goushchin, Andrey Koshchaev, Maksim Rebezov, Mars Khayrullin**

	Paper Title:	**Use of The Electromagnetic Field of Low Frequencies in the Production of Sausages**

Abstract:This article presents the results of the research influence of electromagnetic field on the microflora of fresh sausage. Agents, by using a field had a frequency range from 10 to 110 Hz, and the duration of exposure ranged from 15 to 60 min After exposure frequency of 10 Hz for 30 minutes, micrographic study showed a partial destruction of cellular structures, reduced ability to bind water and reduce microbiological contamination of meat. It was found that the treatment of starter cultures "ALMI-2" with a frequency of 45 Hz for 60 minutes stimulates their growth. Low-frequency starter cultures, processed by electromagnetic method, reduce the pH, moisture-binding and water-retaining ability of ground meat and increase its stickiness.

Keyword:electromagnetic treatment, fresh sausage meat, starter cultures, biomodification, test ground meat.

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149.	**Authors:**	**Ravi Jon, Neha Martin, Prabhakara Rao Dasari, Ajit Paul, Vipul Singh**

	Paper Title:	**Effect of Physical Parameters on Green Synthesis of Gold Nanoparticles using Zea Mays Extract**	
	Abstract:Gold nanoparticles (AuNPs) were produced by green synthesis method by utilization of Zea Mays Extract as the reducing and stabilizing solution. Selected parameters like Time, Temperature, pH, Light and Concentration effects on the preparation of gold nanoparticles was analyzed by UV- Visible Spectroscopy (UV-Vis.). The size was measured through Dynamic Light Scattering (DLS) and also confirmed by Transmission electron microscopy (TEM) techniques, it is also observed that all the reaction time, Temperature, Concentration and reaction time are very essential parameters which should be noticed with high precession during the synthesis of Gold nanoparticles. **Keyword:**Green synthesis, Gold nanoparticles, physical parameters effect. **References:** 1. Jon R., Singh V., Jayapandian DP., A study on green reducing agents for gold nanoparticles. Advanced materials proceedings, 2017, 2(6), 410-412 2. Muhammad Irfan et al 2017 IOP Conf. Ser.: Mater. Sci. Eng. 204 012002 3. Vanaja, Mahendran & Gurusamy, Annadurai. (2012). Coleus aromaticus leaf extract mediated synthesis of silver nanoparticles and its bactericidal activity. Applied Nanoscience. 3. 10.1007/s13204-012-0121-9. 4. Ankamwar, B., Chaudhary, M. and Sastry, M., Metal-Organic and Nano-Metal Chemistry, (2005)35, 19–26. 5. P. Mohanpuria, N.K. Rana, S.K. Yadav, J. Nanopart. Res. 10 (2008) 507–517. 6. Morel AL, Giraud S, Bialecki A, Moustaoui H, de La Chapelle ML, Spadavecchia J. Green extraction of endemic plants to synthesize gold nanoparticles for theranostic applications. Frontiers in Laboratory Medicine. 2017 Sep 1;1(3):158-71. 7. Siddiqi KS, Husen A. Recent advances in plant-mediated engineered gold nanoparticles and their application in biological system. Journal of Trace Elements in Medicine and Biology. 2017 Mar 1;40:10-23. 8. Sapsford, K.E.; Tyner, K.M.; Dair, B.J.; Deschamps, J.R.; Medintz, I.L. Analyzing nanomaterial bioconjugates: A review of current and emerging purification and characterization techniques. Anal. Chem. 2011, 83, 4453–4488. 9. Tomaszewska, E.; Soliwoda, K.; Kadziola, K.; Celichowski, G.; Cichomski, M.; Szmaja, W.; Grobelny, J.Detection limits of DLS and UV-vis spectroscopy in characterization of polydisperse nanoparticles colloids.J. Nanomater. 2013, 2013, 313081. 10. Jon R, Dasari PR, Singh V and Jayapandian DP: Utilization of Maize extract for the synthesis and characterization of gold nanoparticles at room temperature. Int J Pharm Sci & Res 2019; 10(5): 2397-02. doi: 10.13040/IJPSR.0975-8232.10(5).2397-02	**870-873**
150.	**Authors:**	**Malliga Subramanian, Kogilavani, P.S.Nandhini**	
	Paper Title:	**A Marking/Traceback System for Detecting the Source of Dos/Ddos Attacks**	
	Abstract:Distributed Denial of Service (DDoS) attack is a significant threat in today's world. Attackers hide their identity by spoofing and defending. To quickly detect a spoofed Internet Protocol (IP) during a DDoS attack the number of time-to-live hops in the network can be evaluated. While using time-to-live, if the routers gets compromised it may lead to the wrong detection of spoofed IP when both the source and attacker are at same distance. To identify an attacker, this system proposes an enhanced packet marking and traceback algorithm for IP traceback that helps the traceback of the spoofed packet to its source. A number of IP traceback techniques exist, but they have limitations like the number of packets required or storage and computational overheads incurred at routers. The technique proposed reduces marking and storage overhead.. **Keyword:**IP Spoofing, DoS/DDoS, IP Traceback, Packet Marking, Storage Overhead. **References:** 1. P. Ferguson, D. Senie, “Network ingress filtering: defeating denial of service at-tacks which employ IP source address spoofing (BCP 38)”, 2000. http://tools.ietf.org/html/rfc2827 (accessed 19 February 2018). 2. R. Chen, J.M. Park, R. Marchany, “RIM: Router interface marking for IP traceback”, IEEE Global Telecommunications Conference (GLOBECOM ’06), San Fransisco, California, November 2006, pp 1–5 3. S. Malliga, A. Tamilarasi, “A proposal for new marking scheme with its performance evaluation for IP traceback”, WSEAS Trans. Computer research. Vol. 3, (2008), pp. 259–272 4. S. Malliga, A. Tamilarasi, “A hybrid scheme using packet marking and logging for IP traceback”, Int.ernational Journal Internet Protocol Technology. Vol 5, (2010), pp. 81–91. 5. M.H. Yang, M.C. Yang, “RIHT: a novel hybrid IP traceback scheme”, IEEE Transaction .Information Forensics Security. Vol. 7, 2012, pp. 789–797. 6. M. Kamaldeep, M. Malik, M. Dutta, “Implementation of single- packet hybrid IP traceback for IPv4 and IPv6 networks”, IET Information. Security. Vol. 12, (2018), pp. 1–6, doi:10.1049/iet-ifs.2015.0483. 7. M. Vijayalakshmi, and M. Shalinie, “Single Packet ICMP Traceback Technique using Router Interface“. Journal of Information Science and Engineering, Vol. 30, No. 6, 2014, pp. 1673-1694	**874-878**
151.	**Authors:**	**Yogita R. Kulkarni, Sandeep A. Thorat**	
	Paper Title:	**Network Malware Detection using Soft Computing and Machine Learning Techniques**	
	Abstract:In today’s world there is rapid increase in the information which makes addressing of security issues more important. Malware detection is an important area for research in effective and secure functioning of computer networks. Research efforts are required to protect the systems from various security attacks. In this paper, we analyze usefulness of Soft Computing and Machine Learning Techniques for network malware detection. Hamamoto et al. [1] used combination of Genetic Algorithm and Fuzzy logic for implementation of network anomaly detection. The research work proposed in this paper extends the concepts discussed in [1]. The proposed work explores use of various Machine Learning algorithms such as K-Nearest Neighbor, Naïve Bayes and Decision Tree for network anomaly detection. The experimental observations are conducted on CIDDS (Coburg Intrusion Detection Data Set) dataset [14]. It is observed that Decision Tree approach gave better results as compared to KNN and Naïve Bayes techniques. Decision Tree technique gives 99% of accuracy and precision	**879-885**

of 1 and recall of 1.

Keyword: Network Malware Detection, Soft Computing, Machine Learning, K-Nearest Neighbors, Naïve Bayes, Decision Tree.

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152.

Authors: **Abdoul Matine Ousmane, Tahirou Djara, Médésu Sogbohossou, Antoine Vianou**

Paper Title: **Emotion Recognition Expressed on the Face By Multimodal Method using Deep Learning**

Abstract:Emotional recognition plays a vital role in the behavioral and emotional interactions between humans. It is a difficult task because it relies on the prediction of abstract emotional states from multimodal input data. Emotion recognition systems operate in three phases. A first that consists of taking input data from the real world through sensors. Then extract the emotional characteristics to predict the emotion. To do this, methods are used to exaction and classification. Deep learning methods allow recognition in different ways. In this article, we are interested in facial expression. We proceed to the extraction of emotional characteristics expressed on the face in two ways by two different methods. On the one hand, we use Gabor filters to extract textures and facial appearances for different scales and orientations. On the other hand, we extract movements of the face muscles namely eyes, eyebrows, nose and mouth. Then we make an entire classification using the convolutional neural networks (CNN) and then a decision-level merge. The convolutional network model has been training and validating on datasets.

Keyword:CNN, deep learning, emotion recognition, facial expressions.

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153.

Authors: **Abdulnaser M. Alshoaibi, Abdulrahman A. Bin Ghouth, Yahya Ali Fageehi**

Paper Title: **Three- Dimensional Simulation of Crack Propagation using Finite Element Method**

Abstract:The 3D finite element software ANSYS Workbench software has been employed for simulation of engineering geometries which are containing a pre-cracks and holes. The new feature in this software is using the smart crack growth procedure and the mesh smoothing technique which provides an adaptive and smooth mesh around the crack path as well as the higher stresses area. Under the assumption of LEFM, the stress intensity factors was used as a crack growth criterion which provided as indicators of failure compared to the fracture toughness or threshold stress intensity factors (SIFs) in both static and dynamic loading respectively. The stress intensity factors were calculated for every crack growth step and the fatigue life time was predicted according to the number of cycles. The effect of the nominal notch position of the crack was illustrated. Simulations performed with Ansys show an identical crack path on structures that is in line with that of the experimental and numerical results performed by other researchers.

Keyword: Fatigue analysis, FEM, ANSYS Workbench, Crack growth path, Nominal notch position.

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Authors: **M. Venkata Subbarao, P. Samundiswary**

Paper Title: **Spectrum Sensing using AMC and TFT**

Abstract:Spectrum Sensing (SS) is a foremost step to implement next generation Cognitive Radio (CR) systems. The primary goal of a SS technique is to examine whether the Primary User (PU) is in active state or not by analyzing the surrounding radio environment. Traditional methods such as energy detection and Matched Filter Detection (MFD) schemes along with decision making circuits are generally used in SS. However, these techniques are developed under cooperative scenarios and they are used to sense single PU (narrowband sensing). In non-cooperative scenarios and fading channel conditions, traditional techniques produce higher false alarm. If Secondary User (SU) is occupied in the channel then SS task is more difficult. In order to overcome these limitations, a narrowband and wideband SS algorithm using Automatic Modulation Classification (AMC) and Time-Frequency Transform (TFT) is developed in this paper. The performance analysis of proposed AMC and TFT based SS technique under various channel conditions which is also described in this paper.

Keyword:AWGN, Fading Channels, FSWT, CR, SDR.

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Authors: **Houneida Sakly, Mourad Said, Moncef Tagina**

Paper Title: **Femur Bone Stress Analysis in CFD Modules with Parallel Processing**

Abstract:This research focuses on the aspect of femur bone modeling that will change structure in response to mechanical stresses that can be induced to bone formation. 3D femur bone models are constructed by configuring material and geometric conditions and respecting patients' specific features, providing realistic and performant structural analysis. Using CFD concept, a three-dimensional model of the femur system was established, calculated the level of stress, the distribution of the femur and the magnitude of the transmitted force. This study describes a 3D construction process as well as the generation of the mesh based on a parallel processing of eight processors. Our main contribution revolves around the use of CFD modules to simulate stress measurement in the bone and study their impact in the case of external force exerted with successive values 10N, 50N and 100N.

Keyword:3D Femur bone, geometric conditions, CFD Module, Stress

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156. **Authors:** **Neunghoe Kim, Chanki Hong**

	Paper Title:	**Repository Construction and Reuse of Software Requirement**	
	Abstract:Software reuse is not limited to reusing code used a lot but can be used in all steps and activities related to software production. In particular, the reuse of requirements has various benefits by reusing reliable requirements, and the development of requirements is an early stage of software development and may have higher efficiency than the utilization of reuse in later stages if reuse is utilized from the initial stage. However, despite its many advantages, the study on the reuse of requirements is insufficient. Therefore, to explore the possibility of the requirements reuse, we conducted a total of four stages in this paper: selection of targets and stakeholders, construction of requirements repository, reuse of requirements repository, and result analysis, and a case study of requirements repository construction and reuse was conducted. We have confirmed the fact that the reuse of requirements possible with a high proportion in practice through the application of actual case and we have also confirmed the possibility of research on the reuse of requirements. If we deal with the reliable requirements by increasing the utilization of requirements reuse, the possibility of the project's success will also be greatly increased.	**907-909**
	Keyword: Requirement engineering, Requirement repository, Requirement reuse, Software requirement.		
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157.	**Authors:**	**Poornima D., Asha Gowda Karegowda**	
	Paper Title:	**Performance Analysis of Various Filters for De-Speckling of Thyroid Ultrasound Images**	
	Abstract:Thyroid ultrasonography is the most common and extremely useful, safe, and cost effective way to image the thyroid gland and its pathology. However, an inherent characteristic of Ultrasound (US) imaging is the presence of multiplicative speckle noise. Speckle noise reduces the ability of an observer to distinguish fine details, make diagnosis more difficult. It limits the effective implementation of image analysis steps such as edge detection, segmentation and classification. The main objective of this study is to compare the performance of various spatial and frequency domain filters so as to identify efficient and optimum filter for de-speckling Thyroid US images. The performance of these filters is evaluated using the image quality assessment parameters Signal to Noise Ratio (SNR), Peak Signal to Noise Ratio (PSNR), Structural Similarity Index (SSIM), Mean Square Error (MSE) and Root Mean Square Error (RMSE) for different speckle variance. Experimental work revealed that kuan filter resulted in higher PSNR, SNR, SSIM and least MSE, RMSE values compared to other filters.	**910-917**
	Keyword: De-speckling, Filters, MSE, PSNR, RMSE, SNR, Speckle noise, SSIM, Thyroid Ultrasound.		
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Authors: **K Senthil Kumar, L Saravanan, A Balaji**

Paper Title: **Instantaneous Drill Bit Wear Level Detection in CNC Machine using Wavelet Transform**

Abstract:The usage of machine tools is widely increased to industrial automation, manufacturing, production technology and etc. The machine tool wear condition monitoring is playing a key role to increase accuracy of the dimension in the final product. By monitoring the wearing level, the life time of the tool is accurately detected and tools can be replaced at the correct time and it can be used to minimize the process time of the task. But it is difficult to monitor and detect the machine tool weariness level from the direct methods. From the indirect methods, the weariness levels of Computer Numerical Control (CNC) machine tool for Acoustic Emission(AE) property is approached in this paper. The AE signals are recorded and pre-processed to extract the features of different wearing conditions using Wavelet Transform(WT). The WT is used to extract the discriminating features that are indirectly reflecting the wearing levels of machine tools. The CNC machines tool weariness at various stage is evaluated from statistical indexes and analyzed based on the relation between the energy distribution of machined surface and wear state of the bit. This approach effectively detects real-time wearing levels of drilling tools by AE using Wavelet technique.

Keyword:CNC machine; machine tool; acoustic emission; wavelet transform; statistical parameters.

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Authors: **Ambar Dutta**

Paper Title: **An Improvement to a Class of Intensity based Spatial Domain Corner Detection Algorithms using Image Fission and Fusion**

Abstract:Corners of an object are important as features for the representation and analysis of its shape in computer vision. Corner detection, particularly in real scenes, is still a challenge. Most of the corner detectors found in the literature generate a number of false corners, which is not acceptable in real-life applications. In this paper, an improvement to a class of corner detection algorithms is presented using image fission/fusion. In this approach, a grayscale image is first divided into several bit-planes. A corner detector is applied on all the bit-planes simultaneously and a threshold (bitplane) is obtained using the concept of information gain. Finally, all the higher bit-plane corners are recombined (up to some thresholded bit-plane) to obtain the final set of corners. Here the corner detection algorithm is considered as a binary classification problem. Experimental results show that this improved approach reduces the number of erroneous corner detection relative to existing spatial domain corner detection algorithms. The improvements are established with the help of a number of performance measures proposed by various researchers. The proposed approach works better with respect to computational time also. This approach can easily be utilized in different low-level image processing applications.

Keyword: Corner detection, bit plane decomposition, information gain, threshold, non-maximum suppression, performance measure.

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Authors: **R.Zarrouk, M. El Amrani, H. El Maati, H. Santillan-Ortiz**

Paper Title: **Improved Diagnosis of Boiler Feed Pumps in a Thermal Power Plant**

Abstract:In thermal power plants, the boiler feed pumps are classified as vital machines. Therefore, the lack of its availability leads immediately to a loss of electricity production. They can also be the source of serious incidents or accidents that directly threaten the operational safety of the machine, as well as the safety of personnel. The inspection is a very effective solution to reduce the possibility of an accident. The vibration analysis can specifically detect with opportunity the possible mechanical, hydraulic and electrical defects that probably exist in motor pump. This document presents different techniques of vibration analysis, which were applied in different pumps to make an effective diagnosis.

Keyword: Control and diagnosis of motor pumps, spectral analysis, envelope analysis, time-frequency analysis,

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scalogram

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Authors:	**Jagadheeswaran Kathirvel, Elango Parasuraman**
Paper Title:	**Serverless Stream Processing with Elastic Multi-M/M/s/K Queue System**

Abstract:The high throughput - low latency stream processing systems are required to be elastic enough to scale for varying load spike on-demand. However, in the current stream processing systems, the load shedding is observed which impacts the final accuracy. In order to get rid of this issue, the elasticity can be implemented in all kinds of resources involved in the stream processing systems. This paper focuses on providing the elastic scalability in queues and Serverless functions for the event stream processing systems. First, we explain the need of elastic multi-queue with Serverless function in detail for event stream processing, and then will propose an algorithm for elastic scalability of multi-M/M/s/K Queuing with Serverless functions for the efficient stream processing. The experiment result shows that the system scales very well in short span of time with the help of our proposed algorithm. The increased availability in turn helps improving the high processing throughput in low latency.

Keyword: Event Stream Processing, Elastic Multi-M/M/s/K Queue, Serverless.

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162.	**Authors:**	**S V S Prasd, K Nishanth Rao, V Arun, D Laxma Reddy**
	Paper Title:	**Auto Metro Train to Shuttle between Stations using Arduino**

Abstract:This Paper Encapsulates About The Technology Used In Driverless Trains Which Are Furnished With A Control System. There Are Many Cases To Avoid Accidents While Driving Due To Human Faults,This Paper Is Implemented To Provide The Station Information Such As Path, Arrival And Departure Timings Of A Train. Distance Between Stations Is All Pre-Defined Relevantly To The Passengers With Announcement And Displays A Message On Screen Including The Passenger Occupancy Count In Train. This Metro Train Consists Of Controller That Operates The Train To Run From One Station To Another Station. After Train Reaches The Destination, The Process Will Be Continued For Further Stations.

Keyword: Arduinoatmega 2560, Ir Sensor, Flame Sensor, Audio Recorder Module.

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163.	**Authors:**	**K Nishanth Rao, P.Ramesh, C.Ashokkumar, Ananya Bannu**
	Paper Title:	**Design and Implementation of Smart Cart using Labview**

Abstract:In this present generation most of the people prefer to visit supermarkets and hypermarkets to buy the products of their needs right from the food products to the household usage items. In general these hypermarkets and supermarkets provide trolleys to their customers to have a hand free convenient shopping. Though the entire shopping goes well most of the customers get stressed out by seeing those long queues and hours of waiting near the bill counters. Even after coming up with some temporary solutions for this highly time consuming problem like increasing the man power in bill counters it didn't bring a big difference. The aim of the paper is to overcome this problem with a permanent solution. Here we introduce a new system called "SMART CART" where we can most probably eliminate the time taking process at the counters. This ultimately leads to the customer satisfaction from the starting of the shopping till the end point. And also adds benefits like reduction of man power requirement and high efficiency with low expenses. In this competitive world of technology this brings a drastic change benefiting both customers and also retail industries by the usage of automated devices. The idea is implemented using LabVIEW software and hardware MyRIO.

Keyword:SMART CART, LabVIEW, MyRIO.

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	Authors:	**Sabarish Kumar P, Santhosh D, Arun Vasantha Geethan K , Arun Raja A K**
	Paper Title:	**Experimentation of a Diesel Engine with Waste Heat Recovery Heat Exchanger**

Abstract:In Rural Areas The Diesel Engine Generator Set Which Uses Diesel Engine Is Used For Irrigation And Agricultural Purposes. But Today The Cost Of Diesel Is Drastically Increasing And The Fossil Fuels Are Continuously Depleting. Also The Exhaust Gases Carry Away Around 35% Of The Total Heat Supplied To The Engine. Consequently Attempts Are Taken To Elevate The Propellant Economy And To Escalate The Productivity Of The Engine By Enhancing The Pursuance And Exudation Distinctive Of The Diesel Engine. Hence A Waste Heat Recovery Exchanger Was Modeled And Synthesized To Utilize The Heat From Exhaust Gases To Preheat The Incoming Air Before Supplying It Into The Cylinder Of The Engine. Initially The Pursuance And Exudation Distinctive Of The Diesel Engine Were Carried Out Without The Heat Exchanger. Then The Same Experiments Were Carried Out With The Heat Exchanger And The Results Reveals That There Is An Improvement In The Performance And Reduction In Emissions Of The Diesel Engine.

Keyword: Diesel Engine; Waste Heat Recovery; Heat Exchanger; Preheating; Exhaust Gases.

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	Authors:	**J.Venkata Suresh, P.Bhramara, S.Sai Krishna**
	Paper Title:	**Effect of Working Fluid on Thermal Performance of Closed Loop Pulsating Heat Pipe**

Abstract:The pulsing heat pipe (PHP) is an technology that is increasingly capable of applying many manufacturing areas, but a thorough knowledge of its thermo-hydrodynamic There's far from enough system. This research explored the features of oscillation and the heat transfer efficiency of a closed-loop PHP using an internal and external diameter copper tube with 2.0 and 3.0 mm respectively. For all experimentation, filling ratio (FR) was 40%, five turns and different heat inputs of 20 to 80 W was supplied to PHP. The position of the PHP was vertical bottom heat type. 52 mm, 170 mm,60 mm was retained for the duration of the evaporator, adiabatic and condenser section. Water, Ethanol are chosen as working liquids. To understand, thermal resistance features and median evaporator pressures for multiple operating liquids at distinct heat inputs. An significant consideration for the results of PHPs is the research on PHP stated operating fluid. The result demonstrates that, with the rise of the heating output from 20 to 80 W, where as steadily increases above 80W, the thermal resistance reduces faster. By comparing Water , Ethanol working fluids, Ethanol provides the highest heat performance . The simulation is performed in Mat lab and the results have been contrasted.

Keyword: Closed loop pulsating heat pipe (CLPHP), Artificial neural network, Thermal performance, Thermal resistance

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Authors: **R.K.Parate, S.J.Sharma**

Paper Title: **Design of a Portable Health Monitoring System Based on Node MCU**

Abstract: In the present work, we have designed a health monitoring system based on Node MCU to monitor temperature, heart rate and oxygen saturation level (SpO2) signals, sensed by respective sensors. The necessary signal conditioning circuits have been designed in our laboratory using off-the shelf electronic components. A Data acquisition system has been designed using ESP 32 Node MCU. The designed system is a low-cost alternative to the commercially available USB controller based health monitoring systems. Firmware has been developed and deployed into the Node MCU using arduino IDE. The acquired data has been displayed on OLED display. The result shows maximum errors in the measured parameters within 2%. The designed system helps to achieve portability, high functionality and low cost which makes it an easy accessible tool for public, hospital, sports healthcare and other medical purposes.

Keyword: Temperature, heart rate and SpO2, Data acquisition system, Node MCU, USB controller, OLED display

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Authors: **Neeru Mago, Satish Kumar**

Paper Title: **Innovative Way to Check the Status of Vacancy in Outdoor Parking Lots**

Abstract:With the unprecedented increase in number of private vehicles, the availability of parking space has become a daunting task for vehicle owners. Be it a shopping mall or a government building, it is hard for drivers to find an appropriate space almost everywhere in the present times. This makes it necessary to find out novel ways to resolve the issues regarding car-parking. Though there are many systems in place for detection of space availability, but one has to shed huge amounts for their implementation. Also there are constraints in using rides-based technologies as they do not consider climatic changes and conditions. The study consists of designing a hybrid model to detect outdoor parking vacant lots and the lots getting vacant in the real-time scenario. The dataset for training, validating and testing the system is extracted from online source which consists of various images of parking lots collected from varied heights and angles. The proposed work in this paper is the

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advancement of our previous work [1] in which we are going to apply more advanced machine learning techniques to classify vacant and occupied parking lots in the outdoor parking areas.

Keyword: Innovative Parking Management, Image processing, Noise removal, Feature extraction, Machine learning.

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Authors: **A. K. Shrivas, Sanat Kumar Sahu**

Paper Title: **A Proposed Ensemble Model with Feature Selection Technique for Classification of Chronic Kidney Disease**

Abstract:Healthcare diagnosis system is very important and critical task in medical science for doctors and medical students. Chronic kidney disease is a very serious and dangerous problem which is directly related to the human life. In this research work, we have used data mining and feature selection technique to develop the robust and computationally efficient model for classifying chronic and non chronic kidney disease. An ensemble model is constructing through combination of two more similar types of trained model which helps to improve the performance. Feature selection is frequently used in machine learning area to raise a model with a few numbers of features which increase the performance of classification accuracy. The proposed feature selection techniques principle of Genetic Search (GS) and Greedy Stepwise Search (GSW). This proposed technique called GS-NB utilizes a pursuit methodology which is embedded in the Genetic Algorithm to select the features based on natural selection, the procedure that drives biological evolution. Then proposed technique called GSW-NB utilizes a search strategy that is included in the Greedy Stepwise to search the relevant feature based on problem solving heuristic for settling the locally ideal decision at each stage. The performance of suggested technique were estimated on Chronic Kidney Disease (CKD) classification problems and compared with proposed feature selection method. The classification techniques namely the Single Rule Classification (SRC), Conditional Inference Tree (CIT) and their ensemble model (SRC, CIT) have used for classification of CKD. The proposed ensemble model have used stacking learning technique which combines multiple classifiers, hence we can improve the performance of classifiers. The classifier performance is measured with observed accuracy, sensitivity and specificity. The experimental results demonstrated that the ensemble model (SRC, CIT) with GS-NB and GSW-NB can recognized CKD better than existing model. The proposed model can be beneficial and useful in medical science for identifying and diagnosis of chronic kidney disease.

Keyword: Chronic Kidney Disease, Conditional Inference Tree, Ensemble Model, Feature Selection Technique, Genetic Algorithm, Greedy-Stepwise, Single Rule Classification.

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Authors: **Grusha Kaur Sahni, K. Ravindranath**

Paper Title: **vSTAAS - an Integrated Pen-Testing Tool**

Abstract:With the increasing threat in the cyber world, securing our networks and applications are becoming costlier. An enormous quantity of cash is being spent on direct or indirect resources. Along with this, with the increasing number of tools in the market, it is leading to confusion in the IT Industry. How can we reduce the amount spent by the organization on these resources without compromising the company’s security and get deep security insight on projects? For this, vSTAAS orchestrates the process of testing applications for flaws and vulnerabilities by Integrating Solutions, Increasing Accuracy, Simplify Management, and Accelerates the testing of Third-Party Software. It offers Strong, actionable intelligence with RPA, Machine Learning, and AI Automation concerning security requirements across the SDLC. The end to end automated Application & Infrastructure security solution helps users to secure their web/mobile/infra applications. It provides cost-effective solutions with necessary remediation and posts remediation revalidation measures. The Centralized portal helps customers to review the report on vulnerability risk remediation status with high-quality end to end testing across SDLC phases.

Keyword: Pen-Testing, SAST, DAST, Mobile, API, Network, Automation, Risk rectification.

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Authors: **Sakshi Kapoor, Surya Narayan Panda**

Paper Title: **Energy-Efficient Heterogeneous Multi-Processor Environment in Cloud using Modern Artificial BEE Colony**

Abstract: Cloud Computing is an expansion in distributed, parallel as well as grid computing. The purpose behind cloud computing is the provision of dynamic hiring of server proficiencies as a virtualized and accessible service for customers and end-users. A key issue found in the cloud is the management of resources. Load balancing is a key problem in the management of resources. The job scheduling issue has charmed abundant courtesy in the field of operation research. There are various algorithms like Ant optimization, genetic algorithms, artificial bee colony which can be used to solve the problem of scheduling. No doubt, Parallelization is proved to be the best method that can be utilized for improving the concert of the above algorithms. In this article, a modified artificial bee colony is utilized in order to crack the problem of scheduling in a heterogeneous multi-processor environment. In this, ABC has various colonies located on dissimilar network hosts as well as the algorithm is accepted in several colonies in parallel fashion. The colonies communicate with each other, which is approved through exchanging immigrants. In order to determine the communication of colonies with neighbors, a dynamic strategy is followed up. The algorithm is useful in making the parallel environment more efficient by reducing energy consumption. The energy consumption is reduced for each job in the DAG. Scheduling with MABC in the heterogeneous environment becomes easy as well as effective.

Keyword: Cloud Computing, Parallelization, Multiprocessor, Energy Consumption, Scheduling, Heterogeneous Environment.

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	Authors:	**Deepti Nathawat, Manju Mandot, Neelam Sharma**
	Paper Title:	**Multimodal Brain Images Fusion using Cultural Algorithm Optimized Multispectral Features**

Abstract:Medical images can be acquired through different techniques (modalities), which have their own application areas; some of them provide information on the functional activity, while others contain only anatomic information. Usually, in the first case, images have low spatial resolution while in the second case have a higher resolution. However, the analysis of medical images often requires the evaluation of more than one modality; in order provide the specialist with more information for decision making as well as for the analysis and the treatment of diseases. Image fusion aims to combine information from the same sensor or different sensors, so that the image fused retain the information content of each individual image. In remote perception, when multispectral images are analyzed, it is very important to preserve the content of spectral information of each of the bands. The challenge is to obtain good quality images that allow us to extract as much amount of information possible, for which it is sometimes necessary to enhance or modify the image to improve its appearance or combine images or portions thereof to combine the information. An ideal fusion of multispectral images and the band panchromatic will result in a new series of bands with greater spatial resolution and equal spectral content. This paper proposes a PCA, DWT and cultural optimized entropy based DWT fusion with the evaluation parameters; arithmetic mean (SM), Maximum value (V_max) and Minimum value (V_min).

Keyword:PCA, DWT, CULTURAL, SM, V_max and V_min etc.

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172.	**Authors:**	**Bijender, Vikram , Dhirender**

	Paper Title:	**Down Time Analysis of Dry Toner Based Digital Printing**	
	Abstract: Digital is better than offset printing process as it imparts zero make-ready wastage. It also supports variable data printing advantages. Machine downtime of Konica Minolta C1085 and Richo pro 8100se digital press was analyzed in local market. The results indicated that white area on print matter, blank page, paper jam, paper curl, paper skew, wrinkle and creasing, print rub-off, miss feed, blur image, horizontal line, ink drop out, technical faults, custom paper, press room temperature, roller track, paper swing, paper moisture, registration, maintenance are the major issues contributed into downtime digital printing. **Keyword:**The results indicated that white area on print matter. **References:**1. Ahmed H. Eid, Brian E. Cooper, Mohamed N. Ahmed, Mohamed N. Ahmed (Characterization of Ghosting Defects in Electropotography Printers) 2. Ahmed, H. EidMohamed, N. AhmedBrian, E. Cooper, Edward E. Rippetoe (Characterization of Electropotography Print Artifacts: Banding, Jitter, and Ghosting) 3. David E. Rumph, Eric S. Nickell, Robert M. Coleman (Anamorphic object optimized function application for printer defect pre-compensation) 4. Lu Chen,Jason Kirkwood,Mohan Mahadevan,James A. Smith,Lisheng Gao,Junqing Huang,Tao Luo,Richard Wallingford (Systems and methods for detecting image quality defects) 5. TsuneakiKawanishi, Yasuki Mori, Koji Noguchi, Tsutomu Iimura (Electropotography process with magnetic brush development using semi conductive ferrite carriers) 6. Robert M. Coleman (Efficient identification of predicted printer defects for anamorphic pre-compensation) 7. John C. Briggs QEA, Inc Burlington, MA/USA Mike Murphy and Yichuan Pan Encad, Inc San Diego, CA/USA (Banding Characterization for Inkjet Printing) 8. C. Briggs, Eugene Hong and David Forrest QEA, Inc. Burlington, MA/USA (Analysis of Ghosting in XerographicJohn) 9. Ming-Kai Tse, David J. Forrest and Francis Y. Wong Quality Engineering Associates, Inc. Burlington, MA 01803 USA (Predicting Print Quality in Xerographic Using Electrostatic Charge Decay Measurements on Development Rollers) 10. RozáliaSzentgyörgyvölgyi, ÁkosBorbélyÓbuda University, RejtőSándor Faculty of Light Industry and Environmental Engineering, Budapest, Hungary(Quality of electropotography prints on foil substrates)	**992-996**
173.	**Authors:**	**Hrudya B Kurup, Remsha M, Sruthi Dinesh, Stephen Rodrigues**	
	Paper Title:	**Design and Development of a Compact Triple-Band Microstrip Patch Antenna Loaded with Shorting Pin.**	
	Abstract:A single layer coaxial probe fed compact shorted patch antenna capable of triple band operation for GSM, ISM and WiMax application has been designed, fabricated and analyzed. The designed antenna generates three separate resonances to cover 1.9 GHz DCS, Bluetooth and WLAN (2.4 GHz), 3.5 GHz WiMax bands while maintaining a small overall size of 36*28*1.6 mm3. A prototype is fabricated and experimental results show good radiation characteristics over the operating bands. **Keyword:**Compact antennas, Mobile antennas, Shorted patch antenna, Quarter-wave patch; Triple-band antenna. **References:**1. K. Hirasawa, and M. Haneishi (Eds.), "Analysis, design, and measurement of small and low-profile antennas", Artech House, pp.73-74, 1992 2. S. Pinhas, and S. Shtrikman, "Comparison between computed and measured bandwidth of quarter-wave miccrostrip radiators", ZEEE Trans., vol. AP-36, no. 11, pp. 1615-1616,1988 3. R.B. Waterhouse, "Small microstrip patch antenna", Electron. Lett., vol. 3 1, no. 8, pp.604-605,1995 4. Waterhouse, R.B., Targonski, S.D., and Kokotoff, D.M.: 'Design and performance of small printed antennas', IEEE Trans., 1998,AP-46, pp. 1629-1633. 5. Ramesh Garg, Prakash Bhartia, Inder Bahal and Apisak Ittipibon., "Microstrip Antenna Design Handbook," Artech House. Norwood MA. Chapter 8, 2001. 6. Balanis C., "Antenna Theory: Analysis and Design". Third Edition, Wiley. New Jersey. (2005). 7. K. L. Wong and W. S. Chen, "Compact microstrip antenna with dual-frequency operation," Electronics Letters, Vol. 33, No. 8, pp. 646-647, 1997. 8. A. Vallecchi, G. B. Gentili, and M. Calamia, "Dual-band dual polarization microstrip antenna," Proceedings, IEEE International Symposium, pp. 134-137, 2003. 9. Girish Kumar and K.P. Ray, "Broadband microstrip antennas", Artech House antennas and propagation library, ISBN 1-58053-244-6, 2003 10. D.M. Kokotoff, R.B. Waterhouse, J.T. Aberle. An annular ring coupled to a shorted patch. IEEE Trans. Antennas Propagat. , 913 – 914. 11. R. Porath, "Theory of miniaturized shorting-post microstrip antennas," IEEE Transactions, Antennas and Propagation, Vol. 48, No. 1, pp. 41-47, 2000-676.	**997-1000**
174.	**Authors:**	**Nazarov Hayriddin Nuriddinovich, Abdullaev Makhmudjon Mukhamedovich,Temurbek Rakhimov Omonboyevich, Otamuratov Sanjarbek Shonazarovich**	
	Paper Title:	**Mathematical Description of the Construction Principles of Electromagnetic Mechatronic Modules of Intelligent Robots**	
	Abstract:The article is devoted to the mathematical description of the principles of construction of electromagnetic mechatronic modules for the linear motion of intelligent robots. Structural schemes and mathematical descriptions of the traction characteristics of various electromagnetic mechatronic modules of linear motion, oriented for use in the manipulation systems of intelligent robots, are considered. The features of many mechatronic modules are determined. A structural diagram of the developed single-axis electromagnetic mechatronic module, the principle of its operation and distinctive features are given.	**1001-1005**

Keyword:mechatronic module, intelligent robot, electromagnet, motion module, traction characteristics, moving part.

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Authors: **D. Samatha, D.Sindhura, K.Kalpana, T.Santhi sri**

Paper Title: **Performance Improvement of MONCRYPT SSA Over Data Obfuscation in Cloud Security**

Abstract: Cloud computing means a set of Information Technology services offered to the users over the web on a rented base. Cloud computing has several benefits like pliable, planning, scalability, combination, and rebate .Security is one in every of the most challenges that hinder the expansion of cloud computing. This study introduces a brief analysis of the issues and challenges of cloud computing security. “Cloud computing services will be varied and must be defined from the perspective of the users of the service. Security of information keep within the cloud is most imperative test publically cloud setting. Due the security issues, information are uncovered by Cloud Service Providers (CSP) and others clients of cloud. To verify the information from security lapse, we are using Security Algorithm , named MONcrypt SSA to protect the data in cloud depository . The proposed technique is depend on information jumbling strategies. The MONcrypt SSA depends on Security as a Service (SEaaS). In this we can utilize the JAVA to recreation of results is utilized for measure the security of propose and existing jumbling procedures. MONcrypt contrast and present jumbling procedure that is Base64Encoding .The anticipated strategy gives better and shrewd security in examination with present obscurity strategies. Not at all like present system, MONcrypt diminishes the size of information that will be transferred in distributed storage.

1006-1010

Keyword: Security service algorithm, obfuscation , MONcrypt SSA , Encoding

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Authors: **T. Ramesh , A. Thilagavathy, Karnam Sai Chetan, Karnam Sai Charan, Vemulapalli Sri Saideep**

Paper Title: **Efficient Technique to Detect Edge in Images with Fuzzy Rules**

Abstract: There exists an increasing demand to detect edge of an image for many real time applications. In this paper an innovative technique is proposed for detecting text using fuzy rules. The projected system primarily divides the image into fragment of 3 x 3 matrix. The proposed system uses fuzzy rules using input size of eight pixels and one output pixel. The output pixels will either be one among black, white or edge pixel. The fuzzy sytem is applied with sixteen rules for categorizing the pixel as target pixel. Fuzzification is performed which converts the input pixel into the fuzzy interval between zero and one. It is followed by calculating a degree of Hesitation, which is also called as the intuitionstic fuzzy indicator. The last step is the Defuzzification process where the pixel identified as the pixel is converted to its original image pixel with the interval between 1 and 255. The proposed system is weighed against existing edge detecting methods like Canny, Sobel, and ACO algorithm. The proposed algorithm works fine even for exigent scenarios of the image.

1011-1015

Keyword: Fuzzy rules, ACO, Intuitionistic fuzzy indicator.

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Authors: **Karhale Deepali B, Thorat Suryakant B**

Paper Title: **Internet of Things based Heart Beat Monitoring System**

Abstract: Healthcare is an area that is rapidly developing in technology and services. A recent development in this area is remote monitoring of patients which has many advantages in a fast aging world population with increasing health complications. The Internet of Thongs (IOT) plays important role to monitor patient health remotely. With help of Arduino Microcontroller, Wifi module and sensors this can be possible. Sensors for monitoring essential vital signs such as electrocardiogram reading, heart rate, respiration rate, blood pressure, temperature, blood glucose levels and neural system activity are available today. Humans are facing a retardant of surprising death because of varied sickness that is because lack of medical aid to the patients at right time. Most of death happened due to right treatment at right time. With the help of technology only now it can be possible to minimize such death. The fetched data through sensors which is attached to human body can be retrieved and store on ThingSpeak cloud is used here. The Doctors can view patient's medical records remotely, recommend or prescribe drug, request for ambulance or visit patient based on data being sent from the monitoring system [13].

Keyword: ThingSpeak, WHO, RTMS, PMS, ECG.

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Authors: **D.V Surya Prakash, Anand Kumar Nelapati, T. Mohammad Munawar**

Paper Title: **Monod Kinetics and Modelling Equations of Quercetin Extraction from Leaves of Indian Gooseberry**

Abstract: Quercetin flavonoid are family of herbal plant compounds shows various pharmacological activities. In the present study, quercetin extraction show best results in the fermentation process than compare to extraction process due to biotransformation process. The highest concentration of quercetin was found to be 8.8µg/ml from the extraction process, and the concentration was found to be 9.6µg/ml from the fermentation process. The Extracts of the fermented process are shown with the maximum specific growth rate and the maximum yield factor (Yx/s) of Bacillus cereus are 0.3541 hr-1 and 0.234µg/ml. The extracts of non fermentation process (extraction) are shown the modelling equation for the quercetin yield extract was Es = 0.0733(1 - e-0.2767t). The model allowed fit accordance with the experimental data by producing average

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absolute relative deviation about 9.53%.

Keyword: Quercetin, Fermentation, Extraction, Indian Gooseberry, Bacillus cereus.

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Authors:	**Haerul, Nurariaty Agus, A. Nasruddin, Ahdin Gassa**	
Paper Title:	**Abundance of Ants on Chili and Corn Intercrop Planting Techniques**	

Abstract: These Ants play an important role as predators in agricultural habitats, including in controlling insect pests. The conducted research investigates the abundance of ants in several intercropping techniques on chili and corn. The intercropping techniques applied were: chili and corn intercropping using plastic mulch, corn and watermelon intercropping that did not use plastic mulch, chili and corn intercropping that did not use plastic mulch, and planting monoculture chili according to the treatment of farmers using plastic mulch and pesticides. The parameters observed in this study were the average population and fluctuations of ants in each intercropping technique. The results showed that the chili plants intercropped with corn, using plastic mulch or not, attracted more ants compared to the monoculture chili planting techniques according to farmers' habits. Observation of the ant population fluctuations captured using the pitfall trap and hand collecting method shows that the ant population is increasing with each observation

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Keyword: Intercropping technique; ant; population; fluctuation.

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Authors: **Nur Hanim Suraya Bt. Sabarudin, MohdFauzi Bin Alias, Mohamed Yusof Bin Radzak**

Paper Title: **Detection of Traffic Light using Machine Vision for Autonomous Vehicles Application**

Abstract: Traffic light detection is crucial to decrease the traffic light accidents at intersections and to realize autonomous driving. There are so many existing methods to detect traffic light. However, these approaches have several limitations, such as not function well in complex driving environments. Hence, to overcome such constraints, the traffic light detection for the autonomous vehicle using image processing technique is proposed. The experiments are carried out using 114 scene images that consist of 209 traffic lights with different angles, weather conditions, and distance. An image processing technique, Hough Circle Transform is used in this traffic light detection system with the help of Gaussian blurring and Sobel filter. So, the overall accuracy rate for the proposed algorithm is 75.59%. This system is possible to be used in urban areas or complex environments, whether it is at night or day, and it able to detect the traffic light regardless of the colour changes.

Keyword: Autonomous vehicle, Hough circle transform, Image processing technique, Traffic light detection.

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181.

Authors: **Mirzayev Kulmamat Djanzakovich, Janzakov Bekzot Kulmamat ugli**

Paper Title: **The Role of Statistical Analysis in Ensuring the Competitiveness of Tourism (Case of Uzbekistan)**

Abstract: This article discusses the importance of statistical data in planning the activities of tourism organizations. Also, the general trends in inbound and domestic tourism are identified and evaluated. The seasonality of inbound tourism turned out to be highly dependent on weather temperature. The importance of hotel classification and its influence on marketing power of tour packages is discussed.

Keyword:inbound tourism, domestic tourism, hotel classification, statistics, seasonality.

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182.	**Authors:**	**Ishtiyaq Ahmad Rather, Abdul Qayoom Dar**
	Paper Title:	**Forecasting Past and Future Trend of Physio-Chemical Parameters in Dal Lake, Srinagar Kashmir, India using Statistical Analysis and Modelling**

Abstract: The paper presents an overview of recent physio- chemical investigations on Dal lake with emphasis on lake, long-term water quality monitoring data from Lake and Water Development Authority (LAWDA1997-2017, published and unpublished data) with present analysis of Dal Lake to compare the water trends for pH, dissolved oxygen, chemical oxygen demand(COD),NO3-N,Total Phosphorus(TP) and Transparency. The main sampling efforts include visit to 36 samplingsitesto find the past and future trend of these physio chemicalparameters(pH, DO, COD, NO3-N, TP and Transparency).Maximum decreasing trendline was found for pH in Nigeen basin in summer season and lowertrends were found inNehru park basin in winter season. Maximum decreasing trendline was found for DO in Nigeen basin in summer season and lower trends were found in Nehru park basin in winter season. COD has shown maximum increasing trends in all basins mostly in Nigeen basin in summer season and lower decreasing trends in Hazratbal basin in autumn season, concentration of NO3-N and TP have shown increasing trends in all basins of lake mostly in Nigeen basin in summer season and lower increasing trends in Nehru park basin in winter season. Trend of transparency has shown decreasing trends in all basins of lake particularly in Nigeen basin in summer season and lower trends can be seen mostly in Nehru park basin in winter season. Tourism influx,maximum use of pesticides and fertilizers in the horticultureandagriculture fields during the growing season (June–August) in the Dal Lake shows a drastic change of these parameters through these years and the influx of tourists visiting this lake has increased in the summer months which isresponsible for eutrophication of Dal Lake and needs serious managerial actions.

Keyword: Dal lake, Future trend, Water quality, Eutrophication.

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24. Saleem M , Jeelani G (2017) Estimation of groundwater inflow to Dal Lake using isotopic mass balance approach. International Symposium on Sustainable Urban Environment

183.

Authors: **Loganathan R, Smitha Kurian**

Paper Title: **Automated Allocation of Resources for Examination System using Genetic Algorithm**

Abstract: The quality of education is to a major extent assessed through examination and therefore examination is an inseparable and integral part of education. Even though we have seen a lot of technological advancements, the examination process is still carried out the traditional way with most of the process performed manually. As a result of which the current system at times are prone to errors and are time consuming. Various techniques have been proposed to automate the time table generation, automatic paper setting and evaluation. One of the tasks that has not got much attention is the assignment of work on a per day basis to invigilators and their assignment to rooms for invigilation. So we propose a system that integrates task like invigilator allotment, room allotment student allotment and time table generation in an efficient way.

Keyword: Resource allocation, Invigilator allocation, Application of Genetic algorithm, automation.

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184.

Authors: **Uzma Ashraf, Abdul Munir**

Paper Title: **Urban Sprawl Assessment and Its Effect on Land Use Transformation in Varanasi City using Remote Sensing and GIS**

Abstract: This paper seeks to examine the effect of urbanization on changes in land use in the peri-urban areas of Varanasi city in India. The area of study is divided into six different classes of land use: built-up area, agriculture, vegetation, water bodies, sand and other land use. Using the maximum likelihood technique, Landsat 5 TM satellite data were used to identify land use and land cover changes from 1996 to 2017. The findings indicate a substantial increase in the built-up area, associated with reduced water and other land use cover. The urban sprawl is observed in almost all directions from the city boundaries, and along highways. Shannon's entropy analysis reveals dispersed distribution of built-up area. The approach based on GIS and remote sensing data, together with statistical analysis, has proved instrumental in the analysis of urban expansion. It also helps to identify priority areas that require adequate planning for sustainable development.

Keyword:GIS, land use, remote sensing, urban sprawl.

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185.

Authors: **Telugu Maddileti, Manideep Jammigumpula, H.Jagadish Kumar, K.V Sai Sashank**

Paper Title: **Voice Controlled Car using Aurduino and Bluetooth Module**

Abstract: This project builds a voice controlled car that can be controlled by voice commands which reacts in accordance to the corresponding voice command. However noise and distance handling require future development. Simple voice commands like left, right, forward, back, stop are used to run the car. These commands are given to Bluetooth module via an android application. The Bluetooth module and control unit are combined to store and test the voice commands. When an instruction for the automobile (car) is identified, a command message is sent to Arduino UNO, the Microcontroller of the car by the Bluetooth device. This command is analyzed by the microcontroller and followed up. In the vehicle, Image processing can be utilized to become aware of the shade and the obstacles. This work has been limited to the ZigBee system in the short-range (100mts range), and is linked to the car over long distance via long-range modules.

Keyword: Arduino UNO, Bluetooth module, Image processing, zigbee system, speech recognition.

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7. https://nevonprojects.com/
8. https://www.hackster.io/Yug_Ajmera/

186.

Authors: **Raupov A.A., Gaibnazarov S.B.**

Paper Title: **Without Clay Drilling Fluids for Well Bore Wiring in Complicated Conditions**

Abstract: The causes of collapse of clay rocks of different Genesis were revealed. As a result of the experimental study, a chalk solution stabilized with non-hydrolyzed polyacrylamide was proposed. The assessment of the degree of stability of clay cores, both freshwater and marine origin in the process of washing wells with chalk solution stabilized polymer reagents. In order to ensure the stability of the wellbore wall, it is recommended to open potentially unstable clay deposits using chalk solutions stabilized with non-hydrolyzed polyacrylamide.

Keyword:neogenic deposits, polyvalent cations, hydroloads, neogen, paleogen, clay, polyacrylamide (PAA), clay rocks, continental-freshwater conditions.

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187.

Authors: **Nimmagadda Srilatha, Balla Srinivasa Prasad, Padmaja Anipey**

Paper Title: **3D Finite Element Modeling and Simulation of Friction Drilling Process**

Abstract: Friction drilling is an advanced drilling process in which that can be utilize the heat produced between the workpiece and rotating drilling tool bit to soften the work material and producing a hole on it. In this investigation our interest is to choose work material is Al 7075-T351 to analyze the stress, strain, temperature and work material deformation in friction drilling. Al 7075-T351 square-tube materials were drilled on a computer numerical control (CNC) machine centre by friction drilling has analyzed at different rotational speed and feed rate through controlled operation tests. The temperatures in work piece and tool were more in Friction drilling. Simulation has required perceiving the material flow, stresses, temperatures, and strains. Those are tough to quantify experimentally through friction drilling. In this study, CATIA is used to design the tool model and the software which is used to simulate the performance of friction drilling is DEFORM-3D and effect of tool material speed and feed rate on shape of bushing formed is observed. Taguchi's technique L9 Orthogonal Array was used to analyze the optimum values. Signal to noise ratios also administered for optimization of parameters.

Keyword: Friction drilling, DEFORM 3D, cutting temperature.

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Authors:	**Navaneeth Kashyap K V, Yashas M S, Yogesh Kumar K J**
Paper Title:	**Design and Fabrication of Waste Oil Fired Furnace**

Abstract: The study carried out a design and fabrication of an waste oil-fired furnace. The study focused on ensuring a high efficiency in melting of aluminium, by effectively minimizing heat losses, and maximizing heat generation. To achieve this, a composite refractory material consisting of cement, asbestos, and clay was used, and waste oil was splashed which is used as fuel with the help of blower which is running at 3000 rpm and power rating of 1hp. The working pressure of furnace is 5.86 x105 N/m2. Changes in the furnace geometry were negligible indicating a long service life potential. With a useful heat input, the furnace is able to melt aluminium at a pouring temperature of 6600C. The design is considered safe since the working pressure does not exceed the working stress of its casing which is made of mild steel.

Keyword: Oil-Fired Furnace, Refractory,Crucible, Furnace, Refractory,Combustion.

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1075-1080

189.

Authors:	**Suman Sourav Prasad, Sambit Kumar Mishra**
Paper Title:	**Implementing Query Terms Linked to Virtual Databases by Metaheuristic Techniques**

Abstract: In general case, the database trigger may be quite applicable to signified queries to validate the database requests. Specifically, these may be essential to adopt search mechanisms to identify the query terms. In such cases it may also be required to eradicate ambiguities during updates by checking consistencies,

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durability. Many database systems support aggregate functions as it may be really linked to statistical analysis of large scale data. Again as per the requirement and schedule, multilevel aggregation may be thought of towards report generation and implementation of join predicates. In case of complexity, direct requests may be accessed to schedule the entire database operations. While optimizing the database queries, alternative query plans may be thought of implementing specific routines to eradicate the duplicity of query terms. It may be quite possible to containerize the query plans linked to several data servers exploring the inter operator parallelism. Also the assemblers linked to the query plans in the servers may steer the process accordingly. Considering the implementation mechanisms of database query plans inside a cloud storage system, the data may be automatically partitioned and replicated. The servers may change dynamically the existing load in response to the query plans. The queries as well as the transactions may be uncommon during optimization process and applications may be communicated following standard activity protocols linked to the database servers. Linking the query terms to the databases, it may also be required to incorporate metadata towards plan execution. Many times transactional database applications linked to relational cloud may have the provision of configuring and accessing the data and may face the challenges like scalability and privacy. To overcome these issues, the tasks may be relocated and rearranged linked to database servers by which better performance may be achieved dealing with complex transactions. Also the aggregation methods or techniques linked to data partitioning may enable the structured queries to yield better performance. In this paper it is intended to obtain query terms along with the threshold values linked to virtual databases.

Keyword: Query terms, Join indices, Virtual machine, Query plans, Metaheuristic, Threshold value

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	Authors:	**Arcadius Benawa**
	Paper Title:	**Determine Variables to Build Organizational Commitment**

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Abstract: This research aims to obtain information related with variables which can build organizational commitment of teachers at SMP (Middle School) Marsudirini in Jakarta, Bogor, and Bekasi. This research used a survey method by distributing questionnaires to teachers. This research was conducted because organizational commitment of the teachers should not be assumed to exist just like that but it must be managed its sustainability related to some variables that affect the quality of organizational commitment of the teachers so that schools have to maintain the quality and benefits for the stakeholders.The data obtained were analyzed and the result showed that the determine variables to built organizational commitment were organizational culture, leadership, work environment, and trust. From the path analysis indicated that these variables had a significant direct effect on organizational commitment. The conclusion is these variables must be built in such a way as to get the idealized organizational commitment of the teachers.

Keyword: Organizational Commitment, Determine Variables (Organizational Culture, Leadership, Work

Environment, and Trust).

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191.

Authors: **Harshitha M N, Nikhil Khatavakar**

Paper Title: **Flexural, Tensile and Compressibility Behavior of Self Compacting Concrete by using Glass Fibers**

Abstract:"Fiber Reinforced Self Compacting Concrete" (FRSCC) is composed of cement, different sizes of coarse and fine aggregates, which integrate with fiber. In this current investigation, M40 grade Self Compacting Concrete reinforced with glass fibers has been developed using the Nan Su method. Fresh state and hardened state properties of Glass Fiber Reinforced Self Compaction Concrete are studied for glass fibers of different aspect ratio (875, 1285 & 1714) and percentage of volume fraction (0, 0.25, 0.5, 0.75 & 1). From the investigation carried out it is found that incorporation of glass fibers of aspect ratio 1285 and percentage of volume fraction 0.5 to SCC attains better compressive and flexural strength compared to other mixtures and also

incorporation of glass fibers of aspect ratio 1285 and percentage of volume fraction 0.75 to SCC attains better split tensile strength compared to other mixtures.

Keyword: Self Compaction Concrete, Glass fibers, Tryout, Aggregates.

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192.	**Authors:**	**Abha Sinha, Anjani Kumari, Somnath Mahapatra, H.P. Singh, Birendra Bharti**
	Paper Title:	**Temporal Rainfall Variabilityand Its Correlation with Temperature over Ranchi, Jharkhand**

Abstract: The extent to which rainfall amount varies across an area (spatial) or through time (temporal) is an important characteristic to determine the climate of an area. The discipline that covers this area in Meteorology/Climatology is known as “Rainfall variability”. It is of two types: Areal (Spatial) and Temporal. The temporal variability of rainfall means variation of rainfall as time varies but the area of the location remains the same. The temporal variability of rainfall of a place helps in knowing the rainfall variability with time. Rainfall variability plays an important role in understanding climate change. In this fast growing world, urbanization and industrialization has led to the problem of global warming. As a result of this, there has been a drift rise in temperature. The present research work was taken over to analyze the temporal trend of Rainfall over Ranchi during 1975-2017 and to study its correlation with temperature over Ranchi, Jharkhand during 1975-2009. To analyze the trend in rainfall over Ranchi, rainfall data from 1975-2017 was studied. The annual rainfall ranged from a minimum of 734.6 mm to a highest of 1771.335 mm. The mean, median, coefficient of variance and standard deviation was also found on the monthly, seasonal and annual basis. Through time series graphs of rainfall, a positive trend is detected in summer season while annual, winter and southwest monsoon rainfall appeared as a negative trend. On the other hand, by utilizing non-parametric tests such as Mann-Kendall trend test and Sen Slope, it was found that there was no significant trend at 95% confidence limit in any case. Through the study, it was found that there is a significant correlation of rainfall with temperature over the years 1975-2009. Although it was found to be negative in Summer, Monsoon and Annual data, whereas there was a positive correlation between rainfall and temperature during the winter season.

Keyword: Man-Kendall, Rainfall Variability, Sen Slope, Trend Analysis

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A. http://www.imdpune.gov.in/ndc_new/Request.html
B. https://www.indiawaterportal.org/met_data/
C. https://www.indiawaterportal.org/datafinder
23 Rainfall Data Courtesy:
Dr. Manoj Kumar, Head of Department, Centre for Environmental Sciences, Central University of Jharkhand, Ranchi
Mr. Shashank Shree, PhD. Scholar, Centre for Environmental Sciences, Central University of Jharkhand, Ranchi
Miss Poulomi Chakravarty, PhD. Scholar, Centre for Environmental Sciences, Central University of Jharkhand, Ranchi.

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Authors: **Sarika Y. Bonde, U. S. Bhadade**

Paper Title: **Encryption Algorithm using Shuffled 2-Dimension Key**

Abstract: Cryptographic algorithms are the fundamental element of security protocols and applications. They need to evolve to face the advance cyber security threats. This paper presents an encryption algorithm in which plaintext is encrypted using Shuffled 2-Dimension Key. Each time when a block is encrypted, the key is shuffled. Next time when a block is encrypted the key is different. Cipher text is more secured with shuffling 2-Dimension key as compared with same without shuffling 2-Dimension key. The results of 2-dimension array (shuffled and without shuffled) are compared with Advanced Encryption Standard (AES) algorithm. Same character is encrypted in different way as the key get changed due to shuffling.

Keyword: Cryptography, encryption, decryption, AES, shuffle.

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Authors: **ND. Sridhar**

Paper Title: **Ancillary Service Requirements Assessment Indices with the LFC in a Restructured Power Systems for RFB Unit by using Bacterial Foraging Optimization**

Abstract: This paper proposes the calculation methodology to leverage the System Support Service Request Valuation Indices (PSASRAI) facility of thetwo _Area Thermal Heat Intersected Power Network (TATRIPS) to highly restored environments. Both Indices display in the supporting demand of the Facility to improve the efficacy of the facility framework's physical activity. In the associated degree interconnected control system, the associated degree sudden strain hassle in any area triggers the frequency variance of the considerable variety of

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territories and in addition within the tie _line forces. To ensure nice quality, this should be updated to confirm age &circulation of electrical power organizations.In addition to Integral (PI) sort controllers, there are broad uses in the dominant problems of Load Frequency Management (LFC). Consequently, the establishment of the PI management benefits for the restored control system is obtained using the calculation of microorganism hunt optimization (BFO). These regulatorsareexistent to accomplish a quicker reclamation periodwithinyield reactions of the framework. Conjointly vitality reposition is associate degree seductiveoption to embrace within the interest facet administration execution, thereforechemical reaction Flow Batteries (RFB) unit isprofitablywont to satisfy the headwould like and upgraded power gridsupportive Service demand Assessment Indices.

Keyword: Load, Redox Flow Batteries, Proportional plus Comprehensive Controller, Frequency Control, Power Systems Requirement Valuation Indices.

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12. Lakshmi DHANDAPANI, Peerfathima ABDULKAREEM," Two-area load frequency-control with redox flow battery using intellectual algorithms in a efficient scenario", Turkish Journal of Electrical Engineering & Computer Sciences, (2018) 26: 330 – 346.APPENDIXA1 Data for TRPS
Rating of each area = 2000 MW, Base power = 2000 MVA, f^o = 60 Hz, $R_1 = R_2 = R_3 = R_4$ = 2.4 Hz / p.u.MW, $T_{g1} = T_{g2} = T_{g3} = T_{g4}$ = 0.08 s, $T_{r1} = T_{r2} = T_{r1} = T_{r2}$ = 10 s, $T_{t1} = T_{t2} = T_{t3} = T_{t4}$ = 0.3 s, $K_{p1} = K_{p2}$ = 120Hz/p.u.MW, $T_{p1} = T_{p2}$ = 20 s, $\beta_1 = \beta_2$ = 0.425 p.u.MW / Hz, $K_{r1} = K_{r2} = K_{r3} = K_{r4}$ = 0.5, $2\pi T_{12}$ = 0.545 p.u.MW / Hz, a_{12} = -1.
A.2 Data for the RFB unit [14]
T_{RFB} = 0, T_{di}= 0 , T_{ri} = 0

Authors:	**Kalyan Acharjya, Dheeraj Acharya, Girijashankar Sahoo, Chandra Shekhar Rajora**	
Paper Title:	**Improvement in Cutoff Frequency of Microstrip Butterworth Low Pass Filter using DGS Technique**	
195.	**Abstract:**This paper presents the design, analysis and fabrication of Butterworth Low pass filter with sharp rejection response using defected ground surface technique. The work is carried out to design a low pass filter with cut-off frequency 2.5 GHz to achieved the broad frequency response; the first step is to make a rectangle of 10x10mm at ground surface and the equivalent circuit for the DGS, subsequently followed to consequent L-C parameters extraction using analysis of S parameters response (EM simulation). The designed Butterworth low pass filter is realized and optimized using DGS (Defected Ground Structure) to attain a compact size, satisfactory transition sharpness along with low insertion loss in pass band and wide rejection in the stop band. The fabricated device showed the good conformity with theoretical and VNA measured result. **Keyword:**Low Pass Filter, Micro strip Filter, Butter worth, Filter, DGS **References:** 1. Jong-Sik Lim, Member, IEEE, Chul-Soo Kim, Member, IEEE, Dal Ahn, Senior Member, IEEE, Yong-ChaeJeong, Member, IEEE, and Sangwook Nam, Member, IEEE "Design of Low-Pass Filters Using Defected Ground Structure" IEEE Transactions On Microwave Theory And Techniques, vol. 53, no 8, Aug. 2005
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196.	**Authors:**	**Pooja Rani, Jaswinder Singh**
	Paper Title:	**Performance Modeling of Classification Techniques on Movie Sentiments**

Abstract: The sentiment-based social media represents a gold-mine approach for analyzing the performance of the products, hotels, movies, politics, etc. Large opinions of the people are found over movie comments that are honest, informative, and casual as compared to the formal type of data-survey modeling using magazines or reports. The work proposed is based on the rating of movies. This paper analyzes the performance of classifiers for the prediction of sentiment class i.e., positive and negative by using artificial neural network, k-nearest neighbor and hybrid approach. The success of these classification techniques depends mainly on the appropriate extraction of the set of characteristics used to detect sentiments. Hybrid of two or more classifiers is mainly used to enhance the results. In the proposed experiment Hybrid of ANN and KNN shows improvement in precision and accuracy than other classifiers.

Keyword: Sentiment Analysis, Artificial Neural Network, K-Nearest Neighbor, Hybrid, Sentiments.

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197.	**Authors:**	**P Uma Maheswari, Mohamed Yilmaz Ibrahim, Ramkumar B, Aswin Sundar**
	Paper Title:	**Deep Learning and NLP based Side Channel Attack for Text Inference in Smartphones**

Abstract: Over the past years, smartphones have witnessed an alarming rise in embedded sensors which enhance their support for applications. However, they can be regarded as loopholes as seemingly innocuous information can be obtained without any user permissions in Android thus invading the user's privacy. Our work establishes a side channel attack by illegitimately inferring the information being typed by the user on a smartphone using the readings from 'zero-permission' sensors like accelerometer and gyroscope. This serves as a proof of concept to prevent such attacks on mobile devices in the future. While previous research has been conducted in this space, our narrative involves a predictive model using Recurrent Neural Networks that can predict the letters being typed in the keyboard solely based on the motion sensor readings, thus inferring the text. Our research was

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able to identify 37.5% of the unseen words typed by the user using a very small volume of training data. Our tap detection method has shown 92% accuracy which plays a critical role in the text inference. This research lays the foundation to further progress in this area, thus helping to strengthen the mobile security.

Keyword: Android, Security, Side-channel attack, LSTM

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Authors:	**B. V. Pranav, Y. Mohana, Mule Sai Krishna Reddy, K.V. Siva Reddy, S. Ravi Teja**
Paper Title:	**11-level Multilevel Inverter for Medium Voltage High Power ID and FD Fan Drives in Power Plant**

Abstract: Multi-level inverter technology has emerged recently as a very important alternative in the area of medium-voltage high-power energy control such as ID and FD fans which runs with the help of these megawatt power drives and renewable energy integration to grid such as solar energy integration which requires pure sinusoidal voltage with less than five percent THD to synchronize to grid. For the requirement of large voltage sources(DC) in number, reduced electromagnetic interference, utilization of power electronic devices having less voltage blocking capability, less percentage of total harmonic distortion in output voltage, reduced stress on insulation they are mostly used. Various topologies are used for multilevel inverters. Among them the most commonly used is cascaded H-bridge (multi-cell). A 3-phase 11-level reduced H-bridge topology is proposed and is controlled by level shift carrier PWM in this paper. The considered topology and controlled algorithm is implemented in MATLAB/SIMULINK. The simulation results show a reduction of THD to a greater extent which will be useful in renewable areas and mega watt power drives.

Keyword:H- Bridge, Multilevel, Inverter, level shift carrier PWM, THD, ID and FD fan.

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199.	**Authors:**	**Kokila B, Sathayaseelan K, Pradeep C**
	Paper Title:	**Smart Accident Detection and Switching of Traffic Signal**

Abstract: An accident is one of the major causes of unnatural and untimely death. This is one of the serious issues throughout the world. Most of the accidents occur due to vehicle factors, improper traffic management, and lack of timely help. With the increase in the number of vehicles, it may be little hard to keep away from such accidents on road. The main objective is to implement the new advancements in saving human lives by detecting the occurrence of the accident in a vehicle and by directing the ambulance to the accident location without time delay. Also by implementing smart traffic control system, the ambulance moves to medical centre in an effective way without any stall in the traffic signals. Automation of accident detection is implemented by sensor-based ambulance management with the smart traffic management system. It consists of Crash sensor and MEMS sensor for detecting the accident in the vehicle and RF transmitter on the ambulance to communicate with the RF Receiver located on the traffic signal. This helps the ambulance to cross the junction switching the signals from Red to Green when the signal is received by the ambulance.

Keyword: Microcontroller, Accident System, Vehicle Section, Ambulance Service, Traffic signal, Global System for Mobile Communications (GSM), Global Positioning System (GPS).

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200.	**Authors:**	**M. Anitha, T.R. Jyothsna**
	Paper Title:	**Power Quality Improvement in DG System using BOA based Interlined Unified Power Quality Conditioner**

Abstract: To improve the power quality of multi-feeder distribution system, this paper proposes a concept of Interline Power Flow Controller (IUPQC). IUPQC is a structure of two filters such as, series and shunt filters. The causes for poor power quality of system is due to harmonics, power factor variations and changes in system voltage. The purpose of these converters is to mitigate the PQ issues. The reference signals required for series and shunt converters of iUPQC system is generated with the help of conventional controllers and PWM controllers. The PLL used to match the phase sequence of converters. For obtaining better improvement in Power Quality this paper is implemented with one of the optimization technique such as Bull Optimization Technique (BOA). The purpose of BOA is used to control the DC Link Voltage of iUPQC. With the help of this BOA technique, the variations in voltage and current are reduced to enhance the power quality. The effectiveness of this proposed system with BOA technique is tested and verified using Matlab/ Simulink environment.

Keyword: Interline Unified Power Quality Conditioner (IUPQC), Bull optimization algorithm (BOA), Phase angle control (PAC), Firefly Algorithm (FA), Ant lion Optimization Algorithm (ALO).

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9. Farheen Chishti; Shadab Murshid; Bhim Singh, "Development of Wind and Solar Based AC Microgrid With Power Quality Improvement for Local Nonlinear Load Using MLMS", IEEE Transactions on Industry Applications (Volume: 55, Issue: 6, Nov.-Dec. 2019)
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11. Ligang He; Huanzhou Zhu; Stephen A. Jarvis, "Developing Graph-Based Co-Scheduling Algorithms on Multicore Computers", IEEE Transactions on Parallel and Distributed Systems (Volume: 27, Issue: 6, June 1 2016).

Authors: **Kothuri Ramakrishna, Basavaraja Banakara**

Paper Title: **A BBO/PSO based Hybrid Technique for Distribution System Feeder Reconfiguration**

Abstract:A cooperative strategy to reconfigure the feeder network by maximizing the location and volume of the distribution generator (DG) in the power system was addressed in this report. The new feature of the proposed method is the integrated output of the Biography Based Optimization (BBO) and PSO techniques. The above methods are the optimization techniques used to configure the radial distribution system for the optimal position and capacities of the DG. For determining the optimum position and strength of the DG, the BBO algorithm includes radial distribution network voltage, actual and reactive energy. The input parameters of BBO are classified into sub settings here and are allowed as the optimization of the PSO algorithm. The PSO synthesizes the problem and uses sub-parameters to create the sub-solution. The method of BBO migration and mutation is used to determine the optimal position and ability of DG for the sub solution of PSO. The cooperative strategy introduced is then applied on the system MATLAB / Simulink, and the usefulness is evaluated using BBO and PSO techniques. The findings of the analysis demonstrate the strength of the solution suggested and affirm its capacity for resolving the problem.

Keyword:PSO, BBO, DG, Feeder

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Authors: **Amit Kumar Mandle, Varsha Namdeo**

Paper Title: **Encryption And Decryption of a Message Involving Byte Rotation Technique and Invertible Matrix**

Abstract: The aim of this paper is to introduce a new encryption algorithm involving byte rotation and invertible matrix. In the proposed algorithm firstly we apply byte rotation to get an intermediate cipher and then applying the invertible matrix (modulo 27), which gives the final cipher text. Using secret key matrix along with congruence modulo, the message can be encrypted and decrypted perfectly.

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Keyword: Congruence, Byte Rotation Invertible Matrix, Encryption and Decryption.

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203.	**Authors:**	**Meiryani, Sani Muhammad Isa**	
	Paper Title:	**The Influence of the Independent Board of Commissioners on Financial Performance**	
	Abstract: Financial performance is a view of a capable economic outcome achieved by the company at a certain time through activities company. Financial problems are one of the most vital problems for companies in business development in all companies. The company's ability to generate profits is the key to the company's success to be said to have good company performance. This study explains the phenomena of the quality of financial reporting and good corporate governance mechanisms, namely the composition of the independent board of commissioners. The total population of big cap companies is fifty companies and those who meet the criteria for the sample are thirty-two companies. This type of research is causal research. The method of analysis in this study uses path analysis to examine the causal relationships between exogenous and endogenous variables. The results showed that the composition of the independent commission's board of influence on financial statements. **Keyword:**Proportion of Independent Commissioners, Audit Committees, Financial Performance **References:** 1. Beasley, Mark S. (1996). An Empirical Analysis of the Relationship Between the Board of Directors Composition and Financial Statement Fraud. The Accounting Review, Vol. 17. No.4, October, p. 443-465. 2. Boediono, Gideon, 2005. Earnings Quality: Study of the Effects of Corporate Governance Mechanisms and the Impact of Earnings Management by Using Path Analysis: National Symposium on Accounting VIII. IAI, 2005. 3. Bryshaw, R.E and Ahmed Eldin. (1998). The Smoothing Hypothesis and The Role of Exchange Differences. Journal of Business, Finance and Accouncing, p. 621-633. 4. Cornett M.M, J. Marcuss, Saunders and tehranian H. 2006). Earnings Management, Corporate Governance, and True Financial Performance. http://papers.ssrn.com/ 5. Chtourou, SM., Jean Bedard. 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204.	**Authors:**	**Kalpna Guleria, Devendra Prasad, Virender Kadyan**	
	Paper Title:	**Detection of Diabetic Patterns using Supervised Learning**	
	Abstract: World Health Organization's (WHO) report 2018, on diabetes has reported that the number of diabetic cases has increased from one hundred eight million to four hundred twenty-two million from the year 1980. The fact sheet shows that there is a major increase in diabetic cases from 4.7% to 8.5% among adults (18 years of	**1169-1173**

age). Major health hazards caused due to diabetes include kidney function failure, heart disease, blindness, stroke, and lower limb dismembering. This article applies supervised machine learning algorithms on the Pima Indian Diabetic dataset to explore various patterns of risks involved using predictive models. Predictive model construction is based upon supervised machine learning algorithms: Naïve Bayes, Decision Tree, Random Forest, Gradient Boosted Tree, and Tree Ensemble. Further, the analytical patterns about these predictive models have been presented based on various performance parameters which include accuracy, precision, recall, and F-measure.

Keyword: Machine Learning, Supervised Learning, Classification, Bio-informatics, Data Mining

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Authors: **Siddhartha Behera, Brijesh Kumar, Rabindra Kumar Behera**

Paper Title: **Minimization of Input Ripple Current for Soft-Switching Buck-Boost Converter**

Abstract: Among all dc-dc converters, the present trend of utilities is buck-boost converter which is capable enough to operate under on/off control so as to step-up and stepping-down the fixed input voltage by varying its duty-ratio of the switch. This converter possesses hard-switched one that means the switching device operate on non-zero voltage or non-zero current and leads to significant increase in switching loss. This issue leads to use of soft-switching of device. As far as the soft- switching of buck-boost converter is concerned, very few papers appear in literature. But in most of these cases, hardly the attention has been given to look into the aspect of ripple content at the input current level. Higher the ripple content at the input not only affect the electrical equipment (i.,e such as adding core losses to transformer in line thus reduction in efficiency), but also causes electromagnetic interference with nearby telecommunication lines and measuring equipment etc. Though there is an option to include the low-pass filter at input, but that creates a hindrance in providing the oscillation along dc link because of input filter in parallel with secondary components across the switch and load. In this research work, the parallel operation of soft-switching buck-boost converter is proposed by modifying the circuit [15] and the circuit is operated with its optimum level so as to minimize the requirement of components. The components of this converter are properly designed to enable soft-switching for the switch. The simulation of

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the proposed circuit is carried out by MATLAB (Simulink) to validate performance.

Keyword: Buck-Boost converter, Soft-Switching (Zero-Current Switching, Zero-Voltage Switching), High frequency inductor, High frequency switched capacitors, Minimization of ripple current, MATLAB (Simulink).

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Authors:	**Zdzislaw Polkowski, Mohanty Anita, Mishra Sambit Kumar**
Paper Title:	**Implementation of Supervised Learning towards Optimizing Queries in Database Systems**

Abstract: Machine learning is a technology which with accumulated data provides better decisions towards future applications. It is also the scientific study of algorithms implemented efficiently to perform a specific task without using explicit instructions. It may also be viewed as a subset of artificial intelligence in which it may be linked with the ability to automatically learn and improve from experience without being explicitly programmed. Its primary intention is to allow the computers learn automatically and produce more accurate results in order to identify profitable opportunities. Combining machine learning with AI and cognitive technologies can make it even more effective in processing large volumes human intervention or assistance and adjust actions accordingly. It may enable analyzing the huge data of information. It may also be linked to algorithm driven study towards improving the performance of the tasks. In such scenario, the techniques can be applied to judge and predict large data sets. The paper concerns the mechanism of supervised learning in the database systems, which would be self driven as well as secure. Also the citation of an organization dealing with student loans has been presented. The paper ends discussion, future direction and conclusion.

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Keyword: Join enumeration, Join optimization, Query plan, Supervised learning, Symbolic learning

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Authors: **R. Ganesan**

Paper Title: **Non-Invasive Method of Diabetes Measurement using Teg Sensor via Foot Skin Temperature**

Abstract: Diabetes is a type of metabolic dieses identified by unstable blood glucose level due to the defect in body to generate or use of insulin. Diabetes is created due to the defect in metabolism of converting the glucose to energy in blood. Hyperglycaemia is a stage were glucose value in the body is greater than 140 mg/dl which leads to type 1 diabetes for the patient. Type 1 diabetes is caused due to lack of generation of insulin in human blood and type 2 diabetes is caused due to resistance to insulin action which leads to several other diseases like foot ulcer and sever wounds in human foot or other parts of the body. Early diagnosing of diabetes disease plays an important task in improving the standard of healthy living. Traditional methods of identifying diabetes does not provides effective results and the results are not more reliable. Temperature based diabetes diagnosing model is defined using TEG sensor to analyse the heat changes in human foot. Imbalanced glucose level affects the performance of nerves system which leads to slower response for temperature change in the foot surface. TEG sensor is used to measure the heat transfer in foot by applying cold water over foot. The rate of temperature changes in foot represents the level of diabetes caused in the patient body. The signals from TEG sensor was collected and processed using signal analysis algorithm using MATLAB software.

Keyword:TEG Sensor, Diabetes foot, nerves breakdown, heat changes, dyadic wavelet transform, Autocorrelation.

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Authors: **N Naga Varun, T Subba Reddy, T L Prasannna Kumar, S P Krishna Mithra, M Srinivasa Reddy**

Paper Title: **Calculation of Exergy Destruction of Various Components by Performing Exergy Analysis on Stage-I of Dr. Narla Tatarao Thermal Power Station (N.T.T.P.S)**

Abstract: For any nation to develop power generation plays a crucial role. The performance of a power plant is analyzed by using the Energy balance and it is done by using the first law of thermodynamics. But to know how much energy is being utilized in reality exergy analysis has to be performed which is also called as second law of thermodynamic analysis because the vital parameter quality is being considered in the exergy analysis. this paper deals with the exergy destruction calculation by performing exergy analysis for various components for a 210 mw plant of Vijayawada thermal power station(stage-1 unit-1) and from the analysis it is clear that exergy destruction is more in condenser

Keyword: Available Energy, Exergetic destruction, second law efficiency.

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Authors: **Pragati Priyadarshinee**

Paper Title: **Cloud Computing Application in Education**

Abstract: The aim of the study is doing the classification of research articles on Cloud computing adoption in education sector through meta-analysis based on number of articles in different geographical location, year of publication, types of methodology, frameworks used and research area covered in last 9 years. In total 143 research articles from 27 peer-reviewed journals from the year 2010 to 2018 were used for meta-analysis. The research findings from the meta-analysis show there is a very little study in the area of cloud computing application in education. The study contributes to the body of knowledge by identifying a classification method for research methodology types, geographical area, articles published in last nine years, types of research framework and research area through meta-analysis.

Keyword: Cloud computing adoption; Meta-analysis; Education Sector

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Authors:	**Leena Daniel, Krishna Teerth Chaturvedi**
Paper Title:	**A Crazy Particle Swarm Optimization with Time Varying Acceleration Coefficients for Economic Load Dispatch**

Abstract: In power generating plants, the expenses on combustible fuel is extremely costly and the concept of ELD (Economic Load Dispatch) make possible to save the considerable portion of profits. Practically generators have economic dispatch problems in terms of non-convexity. These kinds of problem cannot be resolved by conventional optimization techniques because the complication escalates due to manifold constrained that require to be fulfilled in all operating conditions. Recently a Particle Swarm Optimization (PSO) algorithm stimulated by collective conduct of swarm can be applied effectively to translate the ELD problems. The classical PSO bears the difficulty of early convergence mainly when the space of search is asymmetrical. To overcome the trouble "Crazy PSO with TVAC (Time Varying Acceleration Coefficients)" is launched which improve the search ability of the PSO by rebooting the vector of velocity whenever diffusion or saturation locate inside and to employ a scheme of parameter automation to maintain correct equilibrium between global hunt and local hunt and also circumvent the congestion. This arrangement is developed crazy PSO with TVAC and also demonstrated on two different model experimental structures of three generation units and six generation units. The result acquired from proposed method is evaluate with classical PSO and Real coded genetic algorithm (RGA) and it is found to be superior. This method is mathematically simple, gives fast convergence and robustness to resolve the rigid optimization inconvenience.

Keyword:particle swarm optimization; time varying acceleration coefficient; ramp rate limit;

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211.	**Authors:**	**AswathySreenivasan, Akshay MS, M Dhanya, Rajul Raj**
	Paper Title:	**Safety Culture App: An innovation in Safety Performance System at the Aviation Industry**

Abstract: The purpose of this paper is to consider some of the innovation in improving employee's safety culture in the aviation industry. The aviation sectors are one of the fastest-growing sectors in the world. Establishing a sound and robust safety Culture is essential for ensuring the safety and security of the employees. There are many technological innovations to control the tangible risk but are severely limited with options to tackle intangible risk. One of the common error is a human error which creates most of the hazardous problems. In this context to reduce human error, we propose a Safety Culture App that can address most of the problems to a reasonable extent.

Keyword: Safety Culture App, Aviation industry, risk

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212.	**Authors:**	**Vinay Kumar Pandey, Vinayak Majhi , Sudip Paul**
	Paper Title:	**Recovering Oral Motor Strength to Protect Children from Severe Cerebral Palsy through Virtual Gaming Technology**

Abstract: Recent methods and advancing world of medical electronics changed lots of traditional therapeutic intervention and approach for the management and treatment of several disorders. In the same line of approach the way of treatment of cerebral palsy is also changing more or less with recent advancement in clinical research. These clinical research and advancement gives a new pathway in the understanding of CP, early detection and prevention with primary care. This provides us a new opportunity to treat CP with the combination of both modern approach as well as the traditional therapeutic approach. Implementation of modern therapeutic electronics with enriched environment plays a vital role in treatment and management of CP. This paper provides a comparative study of mild and severely disabled children kept in different environment of treatment in the different geographical regions of the country i.e. India.

The child and therapist both are much interested and enjoy a lot when such types of therapy is given from modern devices like computer, tablet, mobile phones in the form of interactive gaming to achieve a variety of therapeutic goals. Use of electronic and software gaming specifically designed for therapeutic purposes may adjunct to manual therapy. These games in recovery of oral motor strength in rehabilitation settings are showing more enjoyable and acceptable for growing children and adults too.

1217-1223

Keyword: Cerebral Palsy, Treatment, Management, Therapeutic, Environment.

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Authors:	**R. G. Mapari, D. G. Bhalke, Rahul Parbat**
Paper Title:	**Mathematical Modeling, Control Design, Simulation & Implementation of Electric Vehicle Charger**

Abstract:A proposed technique to deal with improves the power factor of single-stage rectifiers and to control the load voltage against the adjustment in grid voltage and load is exhibited. This converter topology is assessed based on execution and its remarkable highlights like simple in construction, cost efficient and high degree of performance are communicated about to examine its correctness. The proposed control technique is bridgeless, transformer-less and output current sensor-less and comprises of just two Bi-directional IGBTs and two diodes. The voltage control is accomplished by a simple voltage divider to convey to a controller to control the duty cycles of pulse width modulated signal. This paper concentrated on the numerical displaying of single stage bi-directional converter utilized in electric vehicle.

Keyword: Bridgeless-Sensor-less-Transformer-less converter, duty cycle single phase converter, PWM converter, voltage regulation.

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Authors:	**Ankit Tomar, Bhaskar Pant, Vikas Tripathi, Priyank Pandey, Kamal Kant Verma**
Paper Title:	**Improved Task Scheduling using Effective Particle Swarm Optimization in Cloud Computing Environment**

Abstract:A vibrant on demand service of today's era is cloud computing where one can utilize computer resources without indirect active management by user where one can use computing resources to achieve coherence in economic scale. Since cloud computing feel like Everything as a service so there should be highly scalable and reliable mechanisms to distribute the load evenly across the VMs evenly. Innumerable cloudlet

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mapping policies are presented in various research articles to achieve the high performance, better QOS and minimized task execution time but maximum are conventional approaches. No unconventional realistic scheduling algorithms is available which can schedule the tasks in heterogeneous manner. Since cloudlet scheduling is crucial metrics of cloud computing that has to be heightened by combining the different parameters. This paper tried to provide effectiveness and improvement in task scheduling using nature inspired Particle Swarm optimization (PSO) strategy. A powerful nature inspired load balancing mechanism is proposed in this paper which optimized makespan and throughput in environment of varying cloudlets and virtual machines results as compared to other conventional approaches. Proposed (EPSO) algorithm is with four scheduling policies namely FCFS, Round Robin (RR) and Shortest Job First (SJF) and get near twice good throughput percentage and minimized makespan in two different environments. Author used Cloud sim toolkit and some Open Source cloud packages to simulate the results of various scheduling components. Experimental results of various components are tested and simulated on java based CloudSim toolkit framework.

Keyword: Load Balancing, Particle Swarm, Cloud computing, CloudSim, Makespan, Task Scheduling.

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215.

Authors: **Mohammed Zakir Hussain, PVS Vara Prasad, Yamini S Verma**

Paper Title: **Industrial Impurities Contamination in Musi River Ground Water Area in Hyderabad Zone**

Abstract: Water an essential requirement for the world, the need of saving water when natural resources are available. Present study focuses on the river MUSI which is started from Anathagiri hills and finally connect with river Krishna after travelling nearly 256 KM in state of Telangana state, India. Urbanization and industrialization factors in growing capital Hyderabad changes the natural flow phenomenon of river Musi when it compared with a century back word, around 1925 to 1932 most of the people depends on lakes for drinking

water like himayathsagar, usmansagar and some more. On behalf of development taken place in capital of state, water requirements are highly appreciable. But true factors showing that Musi river being polluted from past 2 to 3 decades rapidly, studies needed to rectify the heavy metal additions which are health hazardous includes sewage, chemical industrial dump. The paper focused on the level of impurities with causes and need of purification.

Keyword: Musiriver, factors for pollution, Sewage, Chemical dump

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Authors: **B. Sai Manvitha Reddy, A. Hari Kishore, P. V. S. Krishna Manmayi, Mahadev A. Gawas**

Paper Title: **Race Condition Detection Algorithms**

Abstract:A data race is similar to any other bugs in software application. Data race will result in the execution of the program unpredictable. There are 46 documented races in Linux kernel. OpenMP is an Application programming interface for shared programming model. It is a construct based model which works on fork join parallelism. OpenMP achieved node level parallelism and can manage data in single instruction multiple data and single program multiple data parallelism by executing different constructs like work sharing and parallel constructs. In any shared programming model, variables are shared by multiple threads in the program to execute different tasks by different threads. OpenMP is used to achieve parallelism by creating shared variable environment but there are chances to have data races in OpenMP programs. In this paper we discuss different algorithms to detect data races in OpenMP programs.

Keyword: OpenMP , data race detection ,OMPT, shared programming model.

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217. **Authors:** **Gagan Batra, A. Y. Prabhakar, Shruti K. Oza**

	Paper Title:	**Finger Gesture Vocalizer**	
	Abstract:A Gesture Vocalizer is a small scale or a large scale system that provides a way for dumb and mute people to communicate easily. The research paper defines a technique, Finger Gesture Vocalizer which includes sensors attached to the gloves above the fingers of the person who wants to communicate. The sensors are arranged in such a way on the gloves, that they can capture the movements of the fingers and based on the change in resistance of the sensors, it can be identified what the person wants to say. The message is displayed on the LCD and is also converted to audio using the APR33A3 audio processing unit. Standard sign languages such as that of American Sign Language which is used by dumb and mute people to communicate can be employed while wearing these gloves. **Keyword:**Atmega 328p-pu, audio processing unit, communication, gesture. **References:** 1. Instructables site, available at https://www.instructables.com/id/GESTURE-VOCALIZER-FOR-DEAF-DUMB-PEOPLE-INTERACTION/ 2. Ata-Ur-Rehman, Salman Afghani, Muhhamad Akmal, Raheel Yousaf, "Microcontroller and Sensors Based Gesture Vocalizer", Proceedings of the 7th WSEAS International Conference on SIGNAL PROCESSING, ROBOTICS and AUTOMATION (ISPRA '08), University of Cambridge, UK, February 20-22, 2008. 3. Deepa Haridas, Drishya M, Reshma Johnson, Rose Simon, Sradha Mohan, Linu Babu P, "Gesture Vocalizer using IoT", International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering ISO 3297:2007 Certified Vol. 5, Issue 4, April 2017.	**1247-1249**
218.	**Authors:**	**Bapireddygari Hema, J. Arokia Renjit**	
	Paper Title:	**Human Actions and Hand Gesture Recognition with Deep Learning**	
	Abstract: Over recent times, deep learning has been challenged extensively to automatically read and interpret characteristic features from large volumes of data. Human Action Recognition (HAR) has been experimented with variety of techniques like wearable devices, mobile devices etc., but they can cause unnecessary discomfort to people especially elderly and child. Since it is very vital to monitor the movements of elderly and children in unattended scenarios, thus, HAR is focused. A smart human action recognition method to automatically identify the human activities from skeletal joint motions and combines the competencies are focused. We can also intimate the near ones about the status of the people. Also, it is a low-cost method and has high accuracy. Thus, this provides a way to help the senior citizens and children from any kind of mishaps and health issues. Hand gesture recognition is also discussed along with human activities using deep learning. **Keyword:**Deep Learning, Human Action Recognition, Skeletal images, spatial dependencies and temporal dependencies, Hand gesture recognition, Transfer learning, machine learning, Convolutional Neural Network (CNN), Human Computer Interaction (HCI), Hierarchical spatio-temporal model (HSTM) **References:** 1. Deep learning for recognizing human activities using motions of skeletal joints, Cho Nilar Phyo, Student Member, IEEE, Thi Thi Zin, Member, IEEE and Pyke Ti, IEEE 2018, Vol No: 0098-3063. 2. Learning Complex Spatio-Temporal Configurations of Body Joints for Online Activity Recognition Jin Qi, Zhangjing Wang, Xiancheng Lin, and Chunming Li, IEEE 2018, Vol No: 2168-2291. 3. A Hierarchical Spatio-Temporal Model for Human Activity Recognition Wanru Xu, Zhenjiang Miao, Member, IEEE, Xiao-Ping Zhang, Senior Member, IEEE, Yi Tian, vol:1520-9210, 2017 4. Fuzzy Temporal Segmentation and Probabilistic Recognition of Continuous Human Daily Activities Hao Zhang, Member, IEEE, Wenjun Zhou, Member, IEEE, and Lynne E. Parker, Fellow, IEEE, vol: 2168-2291, 2015. 5. Deep Learning for Electromyographic Hand Gesture Signal Classification Using Transfer Learning Ulysse Cˆ ot´e-Allard, Cheikh Latyr Fall, Alexandre Drouin, Alexandre Campeau-Lecours, Cl´ement Gosselin, Kyrre Glette, Franc¸ois Laviolette†, and Benoit Gosselin, vol. 1534-4320, Mar. 2019. 6. A Hand Gesture Recognition Sensor Using Reflected Impulses, Seo Yul Kim, Hong Gul Han, Student Member IEEE, Jin Woo Kim, Sanghoon Lee, Senior Member IEEE and Tae Wook Kim, Senior Member IEEE, IEEE 2016, Vol No:1530-437X 7. A Survey on human activity recognition from videos. T. Subetha, Dr.S.Chitrakala, IEEE 2016, Conference paper. 8. Modelling and simulation of activities of daily living representing an older adult's behavior, Ahmad Lotfi, Abubaker Elbayoudi, 2015, conference paper. 9. Human Action Recognition and Prediction: A Survey, Yu Kong, Member, IEEE, and Yun Fu, Senior Member, IEEE, JOURNAL OF LATEX CLASS FILES, VOL. 13, NO. 9, SEPTEMBER 2018 10. A Survey on Human Action Recognition, Ayush Purohit *, Shardul Singh Chauhan*. 11. HAND GESTURE RECOGNITION: A LITERATURE REVIEW,Rafiqul Zaman Khan and Noor Adnan Ibraheem 12. Survey Paper on Hand Gesture Recognition, Manjunatha M B, Pradeep kumar B.P,Santhosh.S.Y	**1250-1253**
219.	**Authors:**	**Irpan Hidayat, Made Suangga, Roesdiman Soegiarso, Putri Arumsari, Yuliastuti**	
	Paper Title:	**Minimizing Noise in Sinusiodal Function Signal using Wavelet Transform**	
	Abstract: Resistances that occur in retrieving and processing signal is caused by the interference (noise) on the data signal measurement results. The resistance will raise uncertainties in determining the value of the frequency. This is due to the signal which is mixed with the noise in the original signal. In general, the process of signal analysis uses Fast Fourier Transformation (FFT). However, by using FFT in analyzing and reconstructing there are still doubts in determining the real frequency due to the still visible noise in the signal. In this study the signal function used is a sinusiodal function, $Y = 2 \sin\pi f1t + 2 \sin \pi f2t$, with a given noise value of 2 DB. The specified frequency value of f1 and f2 equal to 0.25 Hz and 5 Hz, respectively. This research proposed wavelet transforms to analyze and in filtering original signal with noise. By using the transformation	**1254-1260**

wavelet, signal with noise filtered with the high pass and low pass filter method and also using the Haar wavelet function in analyzing. Once the signal is decomposed using wavelet transformation, the wavelet coefficients value will be obtained. The wavelet coefficient values will then threshold within a range of 5-50%. The purposed in determining the treshold value is to reduce the signal data identified as a noise signal data. If the value of wavelet coefficient below the treshold percentage value multiplied by the maximum wavelet coefficient, it is identified as a noise signal data, and the value of coefficient wavelet will be zero. The wavelet coefficient will then be reconstructed in order to obtain the data signal with the new sinusoidal function. In determining the value of the reconstructed frequency signal, the Fast Fourier Transform (FTT) method is used. The results of the study is signals with noise can be analyzed and filtered using wavelet transforms, by changing the signal into wavelet coefficients. Furthermore, the threshold of 5% is capable in reducing of noise in signal so that the graph of frequency and amplitude showed a clearer value of frequency.

Keyword: Signal, noise, wavelet transformation

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Authors:	**R.Ramasubramani, Pennarasi.G,M. B. Sridhar, S.Prakashchandar**
Paper Title:	**Durability Properties on Marine Algae Concrete**

Abstract: Investigation of marine algae had its progress, due to chemical reaction with cement as a result nature gets affected by contamination and thus the inclusion of algae in the concrete found to control the destructive reactions. Algae are natural congenial which adds to the monetary of the concrete and, in the meantime, there is a decline of the wastes. Durability of concrete assumes an essential job in concrete structures. Durability of concrete might be characterized as the capacity of cement to withstand weathering activity and acid attack by retaining its ideal building properties. There are different materials utilized in the concrete to increase durability property. In this investigation, marine brown algae was utilized as added substance with concrete. A fixed water to cement ratio (W/C = 0.5) for M25 grade concrete was adopted with different marine brown algae percentages at 2%, 5% and 8%. The outcome demonstrates that 8% marine algae concrete performed well when contrast with traditional concrete. Deflection behaviour test established that thecrucial load limit of ideal mix concrete slab was found to be higher than the customary conventional concrete slab.

Keyword: Marine brown algae, Durability properties, sulphate attack, RCPT, acid resistance test.

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Authors:	**T. Nagalakshmi, A. Sivasakthi**
Paper Title:	**Effect of Different Chemicals Compounds upon the Surface of Heavy Crude Oil**

Abstract: Heavy crude oil is one of the unconventional crude oil which is difficult to recovery by conventional methods. High viscosity of heavy crude oil is reduced by the usage of steam in thermal recovery processes. Chemical flooding practices were fewer in heavy oil field compared to thermal flooding due to the low reactivity of chemicals on high dense crude oil. In this research article, different chemical compounds were tested on the heavy crude oil in both ambient and hot water conditions. The chemical compound prepared in the ambient temperature of water has no effect on heavy crude oil. On the contrary, heavy crude oil gave response to the chemicals made up of hot water. The chemical compounds namely surfactants, solvents and some salts happened to change the surface of heavy crude oil in turn influence the recovery rate. The analysis is useful for the testing and selecting of specific chemical compound which will react with heavy crude oil and improve the production.

Keyword: Chemical Flooding, Heavy Crude Oil, Solvents, Surfactants, Thermal Recovery and Viscosity

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Authors: **Surendra Kumar Shukla, P.K. Chande**

Paper Title: **Parameter Analysis of Interfering Applications in Multi-Core Environment for Throughput Enhancement**

Abstract: In Multi-core systems the applications co-execute in Multi-programmed mode, have interfere with each other during execution, which creates resource bottleneck affecting the performance. To reduce the interference in a given set of resources some conventional approaches don't give guarantee of performance in a conflicting application environment. In this paper, we make an in-depth analysis of benchmark applications interference for shared resources and find out application set which could be executed adopting a designated policy to mitigate the interference effects. In this work, we have performed profiling and analysis of applications on the state-of-the-art simulator gem5. Finally, we conclude the possibility of performance improvement through the designated policy. The simulation results show the scope to have a new scheduler for performance improvement in such systems.

Keyword: Interference, Multi-core, analysis, performance, policy, co-schedule.

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223.	**Authors:**	**Sakshi Jolly, Neha Gupta,**
	Paper Title:	**AI Proposition for Crypt Information Management with Maximized EM Modelling**

Abstract: There are a few circumstances where we utilize cutting edge innovations to recognize another element from the information we have. Regardless of whether it might be finished data or halfway data we attempt to recognize the new thing from the information. Mysterious information is such we have to concentrate on estimating the situations of achievement rate with this sort of enigmatic information which resembles a futile information. Enigmatic esteem resembles a pointless information which resembled an old information. We have to refine that information which isn't certified at that time. For instance consider age in an informational index as the enigmatic information since when that informational index was made that client might be with some age and after such a significant number of years still the age will be continue as before in the dataset with no update. This sort of data can be handled utilizing the grouping instrument which can be distinguished dependent on the data we accumulated from the store. The usefulness referenced in this article is to quantify the enigmatic information with the AI and approving the model dependent on the exactness we scored with the present information accessible. The total article talks about the activities we perform to accomplish the exactness of the model with various grouping systems.

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Keyword: Machine learning, Predictions, Modelling, Samples, cryptic data

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224.

Authors: **N.Praveen Kumar, B.Stephen Charles, V.Sumalatha**

Paper Title: **FIR Filter Design using Finfets at 22nm Technology**

Abstract: Finite Impulse Response (FIR) filters are the most significantdevice in digital signal processing.In many Digital Signal Processing applications like wireless communication, image and video processing FIR filters are used.Digital FIR filters primarily consists of multipliers, adders and delay elements. Area, power optimization and speed are the key design metrics of FiniteImpulse Response filter.As more electronic devices are battery operated, power consumption constraint becomes a major issue. Multipliers are the core of FIR filters. They consume a lot of energy and are generally complex circuits. With each new process technologies, the short channel effects limit the performance of FIR filters at nano regime. Various architectures have been proposed to enhance the performance of FIR filter. In this paper, FIR filter is designed using FINFETs at 22nm technology using Hspice software.

Keyword:FIR, SCE, FINFETs

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225.

Authors: **Puja Shashi, Suchithra R**

Paper Title: **Segmentation of Neonatal Brain using MR Images in an Efficient Manner**

Abstract: Image analysis using updated technology of magnetic resonance for finding, measuring and studying various tissue related structure of brain and thus discovering its medical region is an important application of segmentation process. In order to analyze the specific regions of brain, brain image segmentation plays a significant role for researchers and clinicians. In this work, we make an attempt to design an efficient segmentation model of neonatal brain MRI images of preterm infants. Initially, the dataset is collected from an eminent public repository that composes of numerous training and testing datasets. The proposed framework comprises of six phases, viz, pre-processing using FANFMF, Contrast enhancement using AAIHE, Feature extraction using PBDLFL, Affinity information using SCMMAL, Dictionary creation using DCAD and clustering using SSMLC. The main aim of this paper is to increase segmentation accuracy in the given MR images. The extraction of local features is a complex task which is simply achieved by the proposed PBDLFL via DCAD. The formation of self-similarity map from the probabilistic dictionary creation helps for better

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segmentation process. Finally clustering based segmentation process using SSMLC algorithm is used that that helps in decreasing uncertainty and sparsity of data so that an efficient diagnosis system can be obtained. Segmentation process that is proposed in this paper can be proved as accurate and efficient by various experimental result.

Keyword: Image segmentation, Segmentation accuracy, Contrast enhancement, Dictionary creation and Self – similarity map.

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226.	**Authors:**	**Suman Gupta, Neetu Mishra Shukla, Indu Babra Kumar**
	Paper Title:	**Soft Skills and Positive Attitude : Science of Bridging Gap**

Abstract: Soft skills are those essential traits and expertise that must be acquired by every person to be successful in life. These abilities, traits or skills are also most popularly called people's skills and in recent times, also known as twenty first century skills. It is proven that the hard skills or the academic or professional qualifications maybe an inevitable component of any kind of employment or job placement but the success of a person depends upon the soft skills he has. Research has shown that attitude of the pupils and development or enhancement of these skills is correlated. The attitude is different in each individual and therefore the real life application of these skills is also varied. The study undertaken endeavours to find out the correlation between the positive attitude and negative attitude of the students towards soft skills and the real life application of it.

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Keyword: Positive attitude, Negative attitude, Application, Soft Skills

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227.	**Authors:**	**Balamurugan S, Saraswathi S**
	Paper Title:	**Design of Energy Aware Scheduling Algorithm for Executing Scientific Workflows in Cloud**

Abstract: The usage of cloud computing and its resources for the execution of scientific workflow is a rapidly increasing demand. The Scientific applications are generally large in scale; even a single scientific workflow includes more number of complex tasks. Execution of these tasks can be made successful only by deploying it in the cloud virtual machines, because only cloud environment can only provide very large number of computing assets. In cloud, every processing resource is given as Virtual Machine. Any scientific workflow deployed in the cloud needs large number of virtual machines so; huge amount of computational energy is spent by the virtual machines to execute multifaceted scientific workflows. Hence there arises the need to utilize the cloud resources in an energy efficient way. Also, if the virtual machines are planned to schedule in an energy efficient manner there is an increase of makepsan of the workflow which is going to be an important parameter for

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completing the workflow within the deadline. So, the need for executing scientific workflows in energy efficient way with reduced makespan becomes a major issue among the researchers. It also becomes very challenging task to executing a scientific workflow in within the given deadline of a task in the given workflow. To address these issues, a new Energy Aware workflow scheduling algorithm is proposed and designed with improved makespan for the execution of different scientific applications in cloud environment.

Keyword: Workflow, Scientific Application, Task Scheduling, Virtual Machines; Power Utilization, Energy Efficiency, Task assignment, Task migration, makespan, Genetic Algorithm, Fitness Function.

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228.

Authors: **Lokaiah Pullagura, Jeevaa Katiravan**

Paper Title: **Train Delay Prediction using Machine Learning**

Abstract: Indian Railways operates both long distance and suburban passenger trains and freight services daily in the country. Trains get delayed frequently due to several reasons such as, severe weather conditions such as fog, traffic, signal failure, derailing of trains, accidents, etc, and this delay is propagated from station to station. If we can predict this in advance - it would be of great help for the commuters to plan their journey either for an earlier departure or postpone, and also lets railways to take measures to avoid delays further. In this paper, we used decision tree, a machine learning method used for predicting train delays, and Recurrent Neural Networks distinguished with various fixtures. For predicting train delays, Recurrent Neural networks with 2 layers and 22 neurons per each layer gave best results with an average error of 122 seconds.

Keyword: Train Delay(TD), Machine Learning, prediction, decision tree, RNN.

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229.	**Authors:** **S. K. Kharade, R. K. Kamat, K. G. Kharade** **Paper Title:** **Simulation of Dye Synthesized Solar Cell using Artificial Neural Network**	**1316-1322**

Abstract: The primary goal of present examination is to foresee every day worldwide solar cell efficiency in view of meteorological factors, utilizing distinctive counterfeit neural system (ANN) procedures. In the present examination we report the impact of Dye Synthesized solar cell. A three-layer artificial neural network (ANN) model was developed to predict the efficiency of Dye Synthesized solar cell based on 100 experimental sets. In the present examination we report the impact of Dye Synthesized solar cell. The effect of operational parameters such as short circuit current (Jsc),Open circuit voltage(Voc),Fill factor(FF) were studied to optimize the conditions to check the efficiency of Dye Synthesized solar cell. Experimental results showed that the ANN model was able to predict adsorption efficiency with a tangent sigmoid transfer function (tansig) at hidden layer with 20 neurons and a linear transfer function (purelin) at output layer. The Levenberg–Marquardt algorithm (LMA) was used with a minimum mean squared error (MSE) of 0.00350141. The linear regression between the network outputs and the corresponding targets were proven to be satisfactory with a correlation coefficient of about 0.9993 for six model variables used in this study.

Keyword:ANN, Dye Synthesized solar cell, Mean-Square error, Simulation

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230.	**Authors:** **Thayalnayaki D, Jayanthi R** **Paper Title:** **Groundwater Quality Mapping of an Open Municipal Solid waste Landfill Site**	**1323-1327**

Abstract: The common practice of Municipal solid waste disposal method in developing countries is an unlined landfill dumping site. Due to this the natural resources land, water and air get polluted and also severely affected by the public living around the dumping yard. In this study, Srinivasapuram dumpsite in Thanjavur City Municipal Corporation area, India has been selected to investigate the quality of groundwater. Groundwater samples collected from 25 locations were tested as per standards for physical, chemical characteristics. The classical contour mapping method has been used to detect information from the recorded ground water quality data. Surfer 6.0 software has been used to convert the spatial data into equivalent contour map. Graphical method has been used to decide the area enclosed by each contour line. The water quality standards recommended by BIS and WHO were used to classify the critical regions based on the ground water contamination level. The water quality parameters such as pH value, Electrical conductivity, Total dissolved solids (TDS), Total Hardness (TH), Iron and Fluoride were considered for this analysis and other parameters were not included. All the collected groundwater samples the pH values are within the permissible limit of 6.5-8.5. The Electrical Conductivity vales range between 0.5mho/cm and 5.7mho/cm. The TDS values ranges between 200 and 3024 mg/l. The concentration of TDS is higher than the permissible level of the samples which are nearby the dumping yard as the contour lines are assembling around the dumpsite. The concentration of chlorides in all the samples under investigation is 12.4 to 1316 mg/l. It has been observed that concentration of total hardness (TH) of water samples varies from 118 mg/l to 2070mg/l. The presence of high concentration of iron and fluoride in the water samples adjacent to dumping yard indicate that it would have contaminated by leachate movement from MSW. The contour plots also reveal that the groundwater was contaminated as per the tests conducted for physical and chemical parameters.

Keyword: Groundwater, Municipal Solid Waste, Pollution, Water quality, Waste Disposal.

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Authors: **Jung Kyu Park, Eun Young Park, Jaeho Kim**

Paper Title: **Unmanned Farm utilizes Virtual Fence Technology for Animal Tracking**

Abstract: In order to graze animals on farms in large areas, fences must be installed. For this reason, installation and maintenance costs are high. To solve this problem and to manage animals efficiently, we want to use virtual fences based on IoT system. A virtual fence is not about installing a physically contiguous fence but using the least IoT device to get the effect of the existing fence. As described above, since the virtual fence is not an invisible and continuous object, it can be formed in various shapes other than a rectangular shape. Virtual fences can be implemented using a variety of sensors and embedded systems currently available in the marketplace. This can reduce the cost of installing and maintaining an existing fence and provide additional benefits such as tracking the health of the animal and movement tracking. In this paper, we propose a virtual fence algorithm. The proposed algorithm can propose an animal's range of motion and take action according to specified rules. The simulation results show that the proposed algorithm can manage the animals in the virtual fence well.

Keyword: Animal tracking, GPS, IoT, Virtual fence

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232.

Authors: **Rama Ambara, Ahmad Nurul Fajar**

Paper Title: **Enterprise Service Bus (ESB) and Business Process Management for System Development**

Abstract: This study aims to proposed system development using Enterprise Service Bus (ESB) and Business Process Management (BPM). It will construct based on specific EA documents such as business architecture. In this study, we design and build simulation using Enterprise Service Bus (ESB) tools and Business Process Management (BPM) tools also. The research sample is a business architecture document from an organization. The results of the study is mechanism to construct system development using ESB and BPM tools.

Keyword:BPM, Business Architecture, ESB, tools

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233.

Authors: **Lakumarapu Veena, K. Sai Krishna, T.Ch. Siva Reddy**

Paper Title: **3D Transient CFD Modelling of Blood Flow through Coronary Artery**

Abstract: Over the past few decades, stroke has become one of the most common cause deaths. The heart muscle, like every other organ or tissue in our body, needs oxygen-rich blood to survive. Coronary artery disease means narrowing of the coronary arteries. This narrowing is due to a buildup of plaque in the walls of the arteries. Computational simulations provide invaluable information that is extremely difficult to obtain experimentally and is one of the many CFD sample applications in the biomedical area in which blood flow through an abnormal artery can be predicted. CFD analysis is increasingly performed to study fluid phenomena inside the human vascular system. In this paper, the study is to develop 3D CFD model of the Coronary artery to observe the blood flow through artery and estimate some of the hemodynamic parameters of blood during systolic and diastolic phase with plaque formation in artery. Hemodynamic parameters were quantified and flow patterns are visualized in the presence of plaques by using CFD.

Keyword: Coronary circulation, CAD disease, CFD, Coronary artery.

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234.

Authors: **A. Kanchana, Vinitha Navis Varuvel, D. Samundeeswari , S. Kuppuraj, R. Kiruthika**

Paper Title: **Determining the Significant Part in an Electrical appliance using Fuzzy Cognitive Map and to Minimize the Cost in the Creation of a Circuit**

Abstract: There are many parts in an electrical appliance, each performing various operations. In particular, if a part fails, then the appliance will not be able to carry out its operations in a better way. Thus, to determine the significant part, fuzzy cognitive map can be used. However, it is noticed that in the washing machine, the outcome of the experiment lists all the parts to play an equal role. Therefore, in order to reduce the cost, the circuit must be minimized which can be done using a Java script software. Using the above circuit in the washing machine, it is easy to identify the fault in the part even before it gets damaged.

Keyword: Washing Machine, Electrical parts, Fuzzy cognitive map, Java script software.

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235.	**Authors:**	**Deepak Kumar Yadav, Bharat Prasad Dixit, Pankaj Yadav, Gajanan R Patil, Jayesh Jain**	
	Paper Title:	**Design and Implementation of Robust Navigation System Platform for Autonomous Mobile Robot**	
	Abstract: An autonomous robot can navigate in a given region and reach to a specified location. The navigation system for these robots has to be reliable, versatile and rugged. In this paper, design and development aspects of such navigation system are discussed. A two level architecture is proposed for navigation of the autonomous robot. The low level controller (LLC) generates odometry data and implements closed loop feedback based PID algorithm. The high level controller (HLC) is used to generate velocity commands based on the path planned and inputs sensed from environment. The two controllers continuously exchange data with each other to reach the final destination. This navigation system platform can be used to develop autonomous mobile robots. **Keyword:**Autonomous Mobile Robot, PID, Odometry, Robotic Operating System (ROS), High Level Controller (HLC), Low Level Controller (LLC). **References:** 1. Xiyang Song, Huangwei Fang, Xiong Jiao and Ying Wang, "Autonomous mobile robot navigation using machine learning," 2012 IEEE 6th International Conference on Information and Automation for Sustainability, Beijing, 2012, pp. 135-140. 2. T. Ichimura and S. Nakajima, "Development of an autonomous beach cleaning robot "Hirottaro"," 2016 IEEE International Conference on Mechatronics and Automation, Harbin, 2016, pp. 868-872G. O. Young, "Synthetic structure of industrial plastics (Book style with paper title and editor)," in *Plastics*, 2nd ed. vol. 3, J. Peters, Ed. New York: McGraw-Hill, 1964, pp. 15–64. 3. S. Aggarwal, K. Sharma and M. Priyadarshini, "Robot navigation: Review of techniques and research challenges," 2016 3rd International Conference on Computing for Sustainable Global Development (INDIACom), New Delhi, 2016, pp. 3660-3665 4. J. Crowley, "Navigation for an intelligent mobile robot," in IEEE Journal on Robotics and Automation, vol. 1, no. 1, pp. 31-41, March 1985. 5. Panzieri, F. Pascucci and G. Ulivi, "An outdoor navigation system using GPS and inertial platform," in IEEE/ASME Transactions on Mechatronics, vol. 7, no. 2, pp. 134-142, June 2002. 6. R. Jarvis, N. Ho and J. Byrne, "Autonomous Robot Navigation in Cyber and Real Worlds," 2007 International Conference on Cyberworlds (CW'07), Hannover, 2007, pp. 66-73. 7. Y. Li and C. Shi, "Localization and Navigation for Indoor Mobile Robot Based on ROS," 2018 Chinese Automation Congress (CAC), Xi'an, China, 2018, pp. 1135-1139. 8. Abu-Lebdeh, Taher, "Implementation of autonomous navigation algorithms on two wheeled ground mobile robot," American Journal of Engineering and Applied Sciences, 2014, Vol. 7, Issue 1, pp. 149-164.	**1346-1349**
236.	**Authors:**	**Patti Ranadheer, N.Prabakaran**	
	Paper Title:	**Artificial Intelligence Based Vector Controller for Switched Reluctance Motor (SRM)**	
	Abstract: The prevalence of the Switched Reluctance Motors (SRMs) increments step by step because of its points of interest, for example, Simple structure, low cost, less weight, high effectiveness and high beginning torque when contrasted with regular motors. SRM is an electric motor which has invaluable highlights that qualifies it to be utilized in electric vehicle, aviation and industrial applications. In this paper, the switched reluctance motor is controlled using vector control by AI controller (fuzzy) so as to limit the torque ripples by directing torque inside indicated hysteresis band. AI Control of SRM encouraged through an irregular converter. The proposed AI controllers are executed in MATLAB/SIMULINK for specified SRM parameters. As indicated by the attained outcomes the SRM behavior is better when impelled by AI controller in contrast with usual controllers. **Keyword:**Switched Reluctance Motor (SRM), Artificial Intelligence, FLC. **References:** 1. C Wang, C Ju, (2018)"Research onTorque Model based on Pretreatment Method for Switched Reluctance Motor" IEEE 2. XDeng, Ping Xu (2018)" Sensorless Control of a Four Phase Switched Reluctance Motor Using Pulse Injection" IEEE 3rd Advanced Information Technology, Electronic and Automation Control Conference. 3. A. P. Khedkar, P. S. Shwami(2017) "Comparative Study of Asymmetric Bridge and Split AC Supply Converter for Switched Reluctance Motor" International Conference on Computation of Power, Energy, Information and Communication (ICCPEIC) 4. S. Ma, L. Wang,(2015,March) "Accurate Measurement and Detailed Evaluation of Static Electromagnetic Characteristics of Switched Reluctance Machines", IEEE Transactions on Instrumentation and Measurement, vol. 64, no. 3, pp. 704-714. 5. Makino, Matsui, N.,(2015,June) "Digital PWM-Control-Based Active Vibration Cancellation for Switched Reluctance Motors," IEEE Transactions on Industry Applications, vol 51,pp.4521-4530. 6. P.Ramesh, P.Subbaih,(2016) 'speed conrol of SR drive using FLC' International Journal of Grid Distribution Computing,vol.6. 7. Mohd Ruddin Ab Ghani1, Nabil Farah1. , M.R.Tamjis1 "Vector Control of Switched Reluctance Motor Using Fuzzy Logic and Artificial Neutral Network Controllers" International Conference on Electrical, Electronics, and Optimization Techniques (ICEEOT) – 2016 8. Takiguchi, M., Sugimoto, H., Kurihara, N., & Chiba, A., "Acoustic noise and vibration reduction of SRM by elimination of third harmonic component in sum of radial forces," IEEE Transactions on Energy Conversion, vol 30, pp. 883-891, March, 2015 9. R. Krishnan(2001) "Switched reluctance motor drives: modeling, simulation,analysis, design and applications," Boca Raton: CRC Press. 10. S. Reay, X. He,(2007,December) "Online Modeling for Switched Reluctance Motors Using B-Spline Neural Networks," IEEETransactions on Industrial Electronics, vol. 54, no. 6, pp. 3317-3322,	**1350-1352**
237.	**Authors:**	**Ms.Sujeetha. R/AP, K Reddy Deeraj, B Bhaskar Yeseswi, Lenin Sade**	
	Paper Title:	**Humidity and Temperature Monitoring System using IoT**	
	Abstract: Indian enterprises significantly incorporate biomedical, horticultural and pharmaceutical which are the mainstays of nation economy. The checking of temperature and humidity are significant regions for every one of		**1353-**

these enterprises. Any sort of unbalancing in the ecological conditions or disconnected parameters can make budgetary misfortune in the profitability of pharmaceutical and horticulture enterprises. Checking of temperature and moistness are likewise required for biomedical industry for medications and cell culture strategies. In medicinal services segments, condition-controlled, conditions are additionally required for patients undermining. In this paper we are going to gauge temperature and humidity by utilizing Node MCU apparatus and DHT11, which will be useful for adjusting the earth to build the productivity in this in agriculture sector today's weather forecasting systems accessible based on satellite and RADAR communication. These frameworks are substantial, hard to deal with and exorbitant. They are detecting scarcely specific region and its incomplete range. In any case, in horticulture field universally not indistinguishable ecological conditions it is important to observing every single yield existing natural situation. An agriculture field premises has dissimilar humidity, temperature, moisture, light intensity because corner of plot trees and water leakage, so that kind of changes across all parameters of field are essential, and such parameters of yield continue the quality. In present paper proposed framework, enhancement of moistness and temperature. There are numerous frameworks are accessible in the market dependent on Wireless sensor organize (WSN) yet this framework is more vitality effective, little size, convenient. Sensor is coordinated bundle contains stickiness and temperature estimation ability in single bundle.

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Keyword:MCU apparatus and DHT11, RADAR These frameworks are substantial, hard to deal with and exorbitant.

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Authors: **J. Grace Hannah, D. Gladis**

Paper Title: **Agnizing Sarcopenia and Coherent Variable Optimization of Body Fat Percentage using Genetic Algorithms and Regression**

Abstract: Obesity is a malady which poses wide threats across the world with its augmented inflation. A domineering determinant to most pandemic diseases in the human body is the agglomeration of body fat. Therefore, an apposite anatomization of body fat estimation for every individual is incumbent. The previous work aberrates and pioneered the implementation of attributes from the lipid profile and Bio-Electric Impedance Analysis (BIA) method of a person, from the conventional use of attributes such as BMI, age and gender to obtain the value of body fat percentage. But the proposed analysis meliorates the accuracy of body fat percentage and resuscitated the gamut of health gremlins it vanguards to. This paper also delineates the variable optimization using regression and genetic algorithm for the attributes incorporated to procure the body fat percentage. Thereby corroborating and revamping the veracity of the novel body fat percentage derived using lipids and the BIA method. The study has further helped in diagnosing a disease known as sarcopenia. The samples from the blood tests and Bio-Electric Impedance method have been procured from the Institute of Bio-Chemistry, after obtaining the consent from the Institutional Ethics Committee, Madras Medical College, Chennai. The simulations are carried out in MATLAB GUI and the results have been successfully obtained.

Keyword: Obesity, Body Fat Percentage, Bio-Electric Impedance, Sarcopenia, MATLAB GUI

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Authors: **Sonia Setia, Jyoti, Neelam Duhan**

Paper Title: **Neural Network Based Prefetching Control Mechanism**

Abstract: An important issue incurred by users that limits the use of internet is the long web access delays. Most efficient way to solve this problem is to use “Prefetching”. This paper is an attempt to dynamically monitor the network bandwidth for which a neural network-based model has been worked upon. Prefetching is an effective and efficient technique for reducing users perceived latency. It is a technique that predicts & fetches the web pages in advance corresponding to the clients’ request, that will be accessed in future. Generally, this prediction is based on the historical information that the sever maintains for each web page it serves in a chronological order. This is a speculative technique where if predictions are incorrect then prefetching adds extra traffic to the network, which is seriously negating the network performance. Therefore, there is critical need of a mechanism that could analyze the network bandwidth of the system before prefetching is done. Based on network conditions, this model not only guides if the prefetching should be done or not but also tells number of pages which are to be prefetched in advance so that network bandwidth can be effectively utilized. Proposed control mechanism has been validated using NS-2 simulator and thus various adverse effects of prefetching in terms of response time and bandwidth utilization have been reduced.

Keyword: Network Bandwidth, Neural Network, Prediction, Prefetching

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Authors: **Abrar Islam, S Priya, Aakrshan Sharma**

Paper Title: **Intelligent Tourist Guide System using Web Development**

Abstract: There is a huge development in the Information Technology or IT sector recently. Also, there is a massive use of Geographic Information System or in short, we say as GIS nowadays. Tourism Industry is getting more and more advantage specially from GIS. GIS and Tourism Industry are bonding together in a smooth and progressive manner. In order to connect GIS and Tourism, that means in order to establish a bonding between them network is required or we can say connectivity is required. Network allows nodes to share resources in digital telecommunications. So, GIS and Tourism are interconnected with network. Network form infrastructure of modern society. When tourists visit a new place, they might not know about the place in a detailed manner or

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it might be just a new place for them. Even services like Google which uses the Navigation system and uses the GIS system might not have all details of a place of very low tourist interests. But here we propose Intelligent Tourist Guide System using Web Development which will help tourists travelling to different parts of the world and also local people can advertise their place in order to make it a Tourist Spot and make their area famous.

Keyword:GIS, Linear Search, Quicksort, Web Page.

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241.	**Authors:**	**Yashvi Thakkar, Faiz Palwala, Utsav Vyas, Krati Agarwal, RajeshKannan Regunathan**
	Paper Title:	**Question to Query: Converting Human Language to DBMS Query**

Abstract: In this paper a method has been proposed keeping in the mind the need for systems that could generate structured queries from normal language keeping in mind that the user has no prior knowledge of database query language. A novel method which aims at aiding analyst who aren't well versed with codes, but need quantitative outputs to analyze, predict and alert the business or market. A python model is used, which aims at converting any sentence typed in English to a query provided that such tables and database is present for query processing. Tree tagging is used here to relate words typed in to SQL query syntax. Any sentence typed in by analyst, it further annotated by parts of speech and lemmas. A list of generic words and stop words is used while parsing the input the sentence and tagging it. Query is generated by simultaneously removing the stop words, mapping the keywords with the one's used in structured query language. The generated query comes out in form of a JSON file.

Keyword: Complex SQL generation, Natural Language Processing, Query parsing, Structured query language ,Tree tagging.

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242.	**Authors:**	**Naela Jamal Rushdi, Sushma**
	Paper Title:	**Establishing AN Association between Risk Tolerance and Behavioral Biases among Indian Investors.**

Abstract: Behavioral Finance Literature Has Shown A Mushroom Growth In The Recent Years. Literature Shed Specific Light On How The Concept Evolved And Later Developed To Various Stages Which Helped To Understand Various Market Anomalies And The Psychology Of Individuals Through Behavioral Biases. Behavioral Finance Tries To Explain The Logic Behind Applying Of Heuristics Or Shortcuts By Investors To Take Investment Decisions Which Still Need To Be Extensively Studied.

The Study Here Attempts For Identify Presence Of Different Biases In Individual Decision Making And Their Association With The Risk Tolerance Capacity. The Results Indicate That Heuristic Biases (I.E. Representativeness Bias, Overconfidence Bias And Gamblers Fallacy Bias) Are Linked To Moderate To High Risk Tolerant Investors. While Herd Bias And Prospect Biases (Loss Aversion Bias And Mental Accounting Bias) Are Found To Be Linked With Low To Moderate Risk Tolerance Levels Of Investors. Heuristics Are Positively Correlated With Risk Tolerance However; Prospect And Herd Are Found To Be Negatively Correlated With Risk Tolerance.

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Keyword: Behavioral Biases, Herd Bias, Heuristics, Prospect, Risk Tolerance.

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Authors: **Anil Chandra, Surbhi Gupta, Chandra K Jaggi**

Paper Title: **Reliability Assessment of Photoelectric Smoke Detector, Ionization Smoke Detector and a Fire Alarm Control Panel with Both Detectors AS Notification Device**

Abstract: Notification device like smoke detectors are critical and important part of a Fire Alarm Control Panel (FACP). Popularly used smoke alarms in commercial establishments in India are photoelectric smoke alarms (PESD) and ionization smoke alarms (ISD). In this study reliability assessments of PESD with Integrated Circuit (IC) – MC145010 and ISD with IC – MC145017 have been carried out on the basis of reliabilities of their respective electronic components. The cases considered are: (I) Failure rates of all components are equal and constant over time (II) Failure rates of all components are equal and follow Weibull distribution and (III) Failure rates of all components are different. To determine failure rates of 9 volt battery of both detectors additional assumptions taken are, (a) battery life is 10 years with constant failure rate, (b) battery life follows Weibull distribution. In this paper the reliability and failure rate of two types of smoke alarms have been calculated based on failure rates of their electronic parts like resistors, capacitors, Integrated Circuits etc. These failure rates have been subsequently used for reliability assessment of a non-addressable FACP containing four PESDs and four ISDs as notification device. A comparison of failure rates was also performed on the basis of two quality factors of electronic components – military specific and lower than military specific.

Mean Time To Failure (MTTF) of PESD and ISD have been calculated in all the cases. Subsequently, MTTF values obtained in case III were used to approximate failure rates for case I case II.

Keyword: Photoelectric smoke detector, Ionization smoke detector, Reliability, MTTF

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Authors: **Reynaldo H. Gomez Jr., Edgardo M. Santos, Armie C. Tolentino, Eldren V. Bulanan, Noel T. Florencondia**

Paper Title: **Electrical Loading Assessment of Commonly-Used Transformers for Feeder 21 of Pampanga Distribution Utility**

Abstract: Transformer plays a vital part in the process of utilization of electricity. In power distribution, the most widely used equipment is the distribution transformer (DT) and function to transform the primary voltage of 13200 volts to the utilization level voltage of 230 volts. In a distribution system, transformers are installed serving commercial, industrial, irrigation, street lights and residential consumers. Distribution transformers were classified as sole-used and commonly-used distribution transformers. The study focuses on assessing the commonly-used distribution transformer of Feeder 21 of Pampanga Distribution Utility. Microsoft Excel 2013 was used to evaluate the percent loading, core and copper losses of each DT’s installed in the feeder. The DTs were classified according to their percent loading: Overloaded Above 71%, Normal Loaded 40% to 70%, and Under Loaded Below 40%. From the data from 2017-2018, 104 units commonly-used DT’s were installed in the feeder. From the results obtained, 30 units were overloaded distribution transformers while 31 units were under loaded distribution transformers. Out of 104 distribution transformers 61 of which are not in the normal loading conditions. The total Core loss in MWh of the distribution transformer in under loaded and overloaded conditions were 34.37 and 38.04, while the copper loss in under loaded and overloaded conditions was 7.46 MWh and 199.76 MWh respectively. The study also shows the implication if the percent loading was maintained to 70%, 110.21MWh will be saved by the electric utility. The researchers find that there is a need in uprating or downrating of transformer and quantifying the consumer connected in each distribution transformers for proper transformer loading may be considered by the Distribution Utility.

Keyword: Commonly–Used Distribution Transformer, Copper Loss, Core Loss, Percent Loading.

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Authors:	**B. Krishnakumari, RM. Narayanan**
Paper Title:	**Simulation of Saltwater Intrusion in a Coastal Aquifer – Chennai, India.**

Abstract:SEAWAT-2000 is employed to reproduce groundwater movement and migration for a coastal stretch in the Chennai city, India. SEAWAT coupled interpretation of MODFLOW and MT3DMS can recreate 3-D model, variable thickness, groundwater flow and multi-layer transport. The variable thickness flow strategy uses the MODFLOW framework to decide the variable thickness flow condition. The aquifer considered for the present investigation is ~ 75 km coastal area from southern Thiruvanmiyur to northern Thiruvottiyur. The analysis considers about managing the available data most capably to create an intense and complex propagation model. The game plan parameters are quantifiable by altering the model for multi-year outputs with consistent time step. The idea is to recharge the unconfined strata using wise groundwater potential of the aquifer with progression of transmissivity and unambiguous yield for weathered, fractured aquifer alluvium and Gondwana formations starting from 2 to 143.2 m2/day along and 0.00075 to 0.2 independently. The model evaluates the extent of above mentioned study area with the targeted accuracy by segregating the data. From this, the model is perceived to be tentatively steady for any groundwater applications and associated with foreseeing the water incursion in beach front aquifers for various strategy and overall water level rising.

Keyword: Coastal aquifer, Flow and transport; MODFLOW; Saltwater intrusion

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Authors:	**Zuhrali Abdulkhakimov Tursunalievich, Madina Ibragimova Ismailovna**
Paper Title:	**Gravity Modeling of Recreational Tourism (In the Example of Namangan Region of the Republic of Uzbekistan)**

Abstract: As a result of specialization and integration of tourist and recreational activities in recreational health improving zones, recreational tourism started developing rapidly in the regions. Gravity models are widely used in the study of development of therapeutic and recreational industry. The problem concentrated in this article is

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developing the theoretical, methodological and practical recommendations for improving the “gravity rings” of recreational places by using gravity models in the example of Uzbekistan regions. For investigation the problem there were applied statistical data gained from gravity models of recreational development in the equation models. Based on theories of gravity modelling, the results of the development, study and implementation of recreation in the regions increase accuracy, the reliability of decisions and take into account the predicted results. The feasibility, accuracy and reliability of the approaches and methods used in the study are based on econometric and mathematical methods, and statistical data is based on the analysis of the data provided by the State Statistical Committee of the Republic of Uzbekistan and the survey data of recreational facilities in the selected region.

Keyword: Therapeutic and recreational industry, tourism, gravity models

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	Authors:	**Abalo P’kla, Yawovi Mawuénya Xolali Dany Ayité**
	Paper Title:	**Determination of Secant Moduli of Agbelouve Silty Sand Stabilized With Cement Used as a Roadway Layer in Togo**

Abstract: The soil stabilization use is necessary in the presence of lesser quality soils. This stabilization has the effect of modifying the soils properties, in particular the strain modulus. For road dimensioning using rational method, it is necessary to know secant modulus of the soil which is not often done in Togo. In this paper, it is determined the secant modulus at different ages of silty sand stabilized with cement at different rates. For this, specimen of silty sand stabilized with cement at rates of 2.5; 3.5 and 4.5% are subjected to the Modified Proctor test and measurement of compressive strength with strain measurement to estimate the modulus at 7, 28, 60 and 90 days of age. The results show that moduli increase with age and cement rate. From different correlations, we estimate the dimensioning modulus of Agbélouvé silty sand stabilized with cement. These estimated moduli allow saying that the cement rate studied are satisfactory from the modulus viewpoint. This study completes the information on Togolese materials needed for road dimensioning by rational methods.

Keyword: Cement stabilization, dimensioning modulus, secant modulus, silty sand, strain.

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248.	**Authors:**	**P.Megana Santhoshi, Mythili Thirugnanam**

	Paper Title:	**Local Robust Gradient Patterns for Recognition of Cardiomyopathy**

Abstract: Cardiomyopathy is one of the heart diseases that cause chamber damages. The impact of heart disease ends up in unforeseen fall with light-headedness. IoT plays an important role in human healthcare systems. Through IoT, it's terribly simple to watch the health condition of the heart disease patient by detection the abnormality within the electrocardiogram signal generated by IoT sensors. The varied ECG signals represent the severity of the heart disease and every graphical record signal has distinctive patterns. This paper describes the recognition of cardiomyopathy disease based on local robust gradient patterns technique LBP operator is one of the foremost powerful techniques to recognize the patterns within the ECG graph signals. But it's highly sensitive to noise and little fluctuations. To beat these limitations LTP and its derivatives are applied. LTP operator removes the noise by dividing the signals into 3 regions. It doesn't provide fruitful results if the signal has an additional range of peaks and valleys. Merely it replaces peaks by the valley and vice-versa. RLTP technique is appropriate to beat this limitation by finding the minimum value of LTP and its complement value. However, it fails for little fluctuation in the signals. To enhance the recognition rate of little fluctuation graphical record signals the discriminant robust local ternary pattern technique is proposed by multiplying the edge gradient values with RLTP techniques. This method is applied to PTB information and therefore the Experimental results are created within the variety of tables and graphs. The proposed technique has high results on the LTP and its derivative methods and is useful for detecting cardiomyopathy with 85% accuracy.

Keyword:LBP, LTP, RLTP, DRLTP, Cardiomyopathy, PTB, DCM, HCM.

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249.	**Authors:**	**Mark Franklin P. Manalang, Wilfredo L. Infante, Al-Shaimah A. Alonto, Ryan John L. De Lara, Noel T. Florencondia**
	Paper Title:	**Performance of a Water Ionizing Device That Uses Carbon Nanotube for Treating Particulates and Other Pollutants Found in Drinking Water**

Abstract: The study was undertaken to verify performance of a commercially available water ionizing device that uses carbon nanotube to treat particulates and other pollutants found in drinking water. Two (2) deep well stations belonging to a local water concessionaire known to have quality issues were considered. Water samples were collected and analyzed for physicochemical, bacteriological and organic parameters such as Total Alkalinity, Bicarbonates, Acidity, Free CO2, Chlorine, Total Hardness, Calcium Hardness, Ca, Mg, pH, Residual Chlorine, Turbidity, TDS, color, Fe, Mn, Total coliform, HPC count and Dieldrin. The device's performance efficiency in treating the pollutants was calculated. The products' claims were verified thru actual test results. Results indicate that the device is not working as it should. It has very minimal color, Fe and Mn removal – contrary to the product claims and has zero dieldrin treatment capability. On the brighter side, the device reduced total coliform by an average of 59.67% although HPC count spiked by an average of 1,210%. The obtained results will be useful in optioneering for future treatment technologies for the water concessionaire or similar waterworks.

Keyword: Dieldrin, Fe, ion exchange, Mn, water treatment

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Authors: **Arpita De**

Paper Title: **Optimal Sizing and Positioning of Grid Integrated Distributed Generator using Particle Swarm Optimization**

Abstract: The intermittent nature of non-conventional energy sources is a major concern in Designing and Simulation of the Integration of a Distributed Generator (DG) in an existing system. Expansive sizing of any system increases the cost of the system and under sizing causes a lack of reliability and poor voltage regulation. In this paper optimal DG - Solar PV System positioning and sizing method has been proposed using particle swarm optimization algorithm (PSO). Optimal positioning and sizing of the system has been calculated for a photovoltaic system considering annualized cost of the system and reliability constraint. The DG system is simulated to determine the position and size of the system component to test the effectiveness of the proposed algorithm over the energy based system sizing method. Simulation and test results prove that the proposed optimal system configuration is able to supply the load annually with the optimum system installation cost along with its payback period.

Keyword: Renewable Energy, Distributed Generator, Solar PV, Grid Integration, Positioning, Sizing, Particle Swarm Optimization

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Authors: **M. O. Wankhade**

Paper Title: **Trends in Gross Enrolment Ratio of Male Female Enrolment and Expenditure on Higher Education as Percentage of Gross Domestic Product India**

Abstract:Education plays a vital role in development of the society and the nation at large. It prepares and trained staff in any respect levels to manage capital, technology services and administration at each sector within the economy of the nation. India is presently at the stage of demographic transition wherever growth is retardation down however, the population of young people entering the labor/employment force continues to expand.

This young and huge population ought to be educated for the betterment of the state. Gross Enrolment Ratio (GER) in higher education with respect to gender is having increasing trend. The proportion of students enrolling in the higher education has increased significantly during the last two decades and as a result the higher education institutes, private universities, private and government colleges, in India are increasing significantly. Though the government of India has its own limitations towards funding the higher education should formulate the policy of funding to the universities/educational institutes so that the quality and standard in higher education is maintained. The aim of this paper is to study the trends in male, female enrolment and expenditure on higher education as % of Gross Domestic Product (GDP) of country. The secondary data is taken from the annual reports of University Grants Commission, AISHE and Ministry of Human Resource Development of India. The data is analyzed by using MINITAB19 statistical software by fitting quadratic trend and the forecasts for the period 2018-19 to 2027-28 with respect to GER of Male, Female and public expenditure on higher education in India. The accuracy of the fitted model is measured on the basis of Mean Absolute Percent Error (MAPE). It was observed that student enrolment in higher education is increased but the expenditure on higher education as % of GDP has sown decreasing trend after 2000-2001.

Keyword:GER, Higher Education, Gross Domestic Prodict, Expenditure, Quadratic Trend Analysis.

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Authors: **P.V.S. Kiran, A. Mohammed Faisal**

Paper Title: **Implementation of Technology Such As Enterprises Resource Planning (ERP) Through Integration of Human Capital with Quality using Analytic Hierarchical Process (AHP)**

Abstract:Information technology Such as Enterprises Resource Planning (ERP) supports the processes of electronic human resource management (e-HRM) but it lacks the other factors such human capital and quality in decision making. Human capital is related to the skill and knowledge of employee. Total Quality Management (TQM) is more emphasis on the internal customer that includes the employee within the organization. Human Capital (HC) and Quality can be integrated to improve the quality of the output. Many studies have integrated the Quality with HRM through e-HRM to improve the performances but only a few studies have done for e-HRM with the integration of HC with Quality. The purpose of this study is to implement the e-HRM through the integration of HC with Quality using Analytic Hierarchy Process (AHP). The exploration type of research design to integrate the HC with Quality is analyzed using AHP analysis based on the critical success factors (CSFs). The analysis of AHP is resulted that Employee involvement (EI = 0.234), Training, Education & Learning (TL = 0.234), Quality Measures (QM = 0.146), Performance Appraisal (PA = 0.131) and Quality Factors (QF = 0.096)

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are selected for implementation of the e-HRM through the integration of HC with Quality. Based on the five CSFs, the conceptual model can be designed for implementation of the e-HRM through the integration of HC with Quality. The conceptual model for implementation of the e-HRM through the integration of HC with Quality needs to be empirically tested.

Keyword:AHP, CSFs, ERP, Human Capital, Quality.

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Authors:	**Chandrakant D. Kokane, Sachin D. Babar**	
Paper Title:	**Supervised Word Sense Disambiguation with Recurrent Neural Network Model**	

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Abstract:Disambiguating words is a branch of artificial intelligence that deals with natural language processing. The dissatisfaction of the motive of the word deals with the polysemy of the ambiguous word, processing a single word in natural language, having two or more meanings where the corresponding context discriminates the meaning. Humans are intelligent enough to derive the meaning of the word because they are a biological neural network. Computers can be trained in such a way that they should function similarly to biological neural networks. There are four different suggested approaches to clutter as the knowledge-dependent approach and the machine learning based models which are further classified as supervised, semi-supervised and unpublished learning models. The purpose of this research is to improve better communication between computers and humans. The discussed model used a supervised learning approach with recurrent neural networks.

Keyword: Supervised learning, recurrent neural network, word sense disambiguation.

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Authors: **D.Muthukumaran, S.Omkumar**

Paper Title: **Heuristic Greedy Method for Spectrum Sensing in Cognitive Radio Network**

Abstract:In recent years, radio frequency spectrum in wireless communication is not effectively utilized. To utilize the spectrum effectively, an optimistic technology called “Cognitive Radio network” used. It is the best preferable next generation wireless networks. Using DSA (Dynamic Spectrum Access) approaches, it shares the spectrum effectively between the primary and secondary users. It allows the secondary users to use the spectrum by dynamic spectrum sharing algorithms. When the primary users and secondary users are using same frequency band and transmitting simultaneously, there is a spectrum underlay problem in the network. A novel heuristic greedy algorithm proposed for improving the performance parameters of cognitive radio network using co-operative spectrum sensing.

Keyword: Cognitive radio network, DSA (Dynamic Spectrum access), Heuristic greedy algorithm.

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Authors: **N. Alivelu Manga**

Paper Title: **Performance Analysis of Acquisition Algorithms for Navic**

Abstract:Indian Regional Navigation Satellite System (IRNSS), is an indigenous navigation system designed and developed by ISRO (Indian Space Research Organization).It is named as NavIC, Navigation with Indian Constellation by Indian Prime Minister. NavIC is designed to have seven satellite constellation that provides reliable position, navigation and timing services over India. The focal modules of NavIC receiver are acquisition, tracking and navigation unit. Among them, acquisition is the data processing unit for detecting satellite signals and their corresponding code phase and carrier frequency. In this paper, various acquisition algorithms like Serial search and Parallel Code Phase search algorithms are analyzed and compared with Cooley-Tukey FFT algorithm and sub-sampled Fast Fourier transform (ssFFT).The results obtained in MATLAB shows that the acquisition computation time for ssFFT based NavIC receiver is faster than parallel FFT acquisition and the Cooley-Tukey FFT IRNSS acquisition algorithm is faster and provides better code phase and carrier frequency values compared to serial search acquisition algorithm.

Keyword:IRNSS, NavIC, acquisition, parallel code phase search algorithm, serial search acquisition algorithm, ssFFT, Cooley-Tukey FFT.

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Authors: **Shubham Sharma, Arun Kumar Tiwari, Sandeep Tiwari, Ravi Prakash**

Paper Title: **Particle Optimization of Ceo2/Water Nanofluids in Flat Plate Solar Collector**

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Abstract:The present research focuses on the role of CeO2/water nanofluid for estimating the performance of flat plate solar collector in respect of energetic and exergetic performance. Based on our experimental findings on varying mass flow rate, the present analysis focuses on a wide range of concentrations to find optimum volume concentration for which thermal performance is maximum. CeO2/water nanofluid exhibits high thermal conductivity improvement (~41.7%at 1.5% volume concentration) and comparatively lower dynamic viscosity. Performance evaluation of flat plate collector is based on first law analysis and qualitative nature of energy flow based on second law analysis. Experiments indicate that for~1.0% particle volume concentration at a mass flow rate of 0.03 kg/s, maximum collector efficiency is obtained up to 57.1% instead of water as the base fluid. Exergetic efficiency observed 84.6%at optimum concentration (~1.0% particle volume) of nanofluid at0.01 kg/s flow rate.

Keyword: Flat plate collector, Nanofluid, Exergy Efficiency, Energy efficiency, Optimization.

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Authors: **Timothy Scott Chu, Alvin Chua, Edwin Sybingco, Ma. Antonette Roque**

Paper Title: **A Performance Analysis on Swarm Drone Loco Positioning System for Time Difference of Arrival Protocol**

Abstract:There is an increasing application potential in swarm technology, accuracy in localization becomes a critical factor in the system in executing the desired task. As there are various localization techniques, this paper focuses on analyzing the performance of a particular radio localization technique called the Loco Positioning System operating on the Time Difference of Arrival protocol subjected to various setup configurations. The research starts with the design of various setup configurations are based on two independent parameters which are, number of anchors, and distance between anchors as they prominently affect the accuracy of the system. Position estimates are obtained by manually moving the Crazyflie equipped with a Tag within a grid system and the values are reflected through the PC client. The position estimates are then compared to the true values to obtain a relative error which is used to define the performance of the system. Data showed that operating on 4 anchors offers relatively low error and increasing the number of anchors to 8 significantly improves the accuracy of the system. Additionally, increasing the distance between anchors from 0.6 m to 2 m also improves the accuracy in the system. The obtained data offers a clear relationship between accuracy and the mentioned parameters, and a good combination of both parameters also affects the accuracy of the system. This paper offers both recommended applications and data which will aid users of the loco positioning system in determining the optimal setup based on their set of constraints.

Keyword: Loco Positioning System, Radio Localization, Swarm Drone , Time Difference of Arrival

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Authors: **Bambang Leo Handoko, Theresia Lesmana, Vincent Kosasih**

Paper Title: **Effect of Professional Ethics, Work Experience, and Emotional Intelligence on Auditor Opinion**

Abstract:The auditor must prioritize professionalism in decision making, especially with regard to decisions related to audit results or opinions. Our study aims to understand impact by professional ethic, length of works, also emotional intelligent to ability in decision making. This study is provides primary data for hundred respondents who work at public accounting firm in South Jakarta. The data used in this research is primary data such as questionnaire. This research is conduct statistical methods to do hypothesis testing and causally research. Based on the partial results of hypothesis testing, professional ethic and emotional intelligent have a significant on auditor decision making effect however work experience has no significant effect on auditor decision making.

Keyword: Ethic, experience, intelligence, decision, auditor

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Authors: **Vidit Kumar, Vikas Tripathi, Bhaskar Pant**

Paper Title: **Content Based Movie Scene Retrieval using Spatio-Temporal Features**

Abstract:Thousands of movies along with TV shows, documentaries are being produced each year around the world with different genres and languages. Making a movie scene impactful as well as original is challenging task for the director. On the other hand, users demands to retrieve similar scenes from their queries is also challenging task as there is no proper maintenance of database of movie scene videos with proper semantic tags associated with it. So to fulfill the requirement of these two (but not the least) application areas there is a need of content based retrieval system for movie scenes. Content based video retrieval is a problem of retrieving most similar videos to a given query video by analyzing the visual contents of videos. Traditional video level features based on key frame level hand engineered features which does not exploit rich dynamics present in the video. In this paper we propose a Content based Movie Scene Retrieval (CB-MSR) framework using spatio-temporal features learned by deep learning. Specifically deep CNN along with LSTM is deploy to learn spatio-temporal representations of video. On the basis of these learned features similar movie scenes can be retrieve from the collection of movies. Hollywood2 dataset is used to test the proposed system. Two types of features: spatial and spatio-temporal features are used to evaluate the proposed framework.

Keyword:CNN, LSTM, CB-MSR, Deep learning.

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Authors: **Aloys Budi Purnomo**

Paper Title: **Constructing and Conducting an Interreligious Ecotheological Leadership in Environmental Science Perspective**

Abstract:Focus of this research is to examine the interreligious ecotheological leadership in environmental science perspective and how to conduct it in the real context to solve environmental problems. It cannot be done alone, but must be conducted with all others religions to face the environmental issue which is always demanding a leader figure to overcome it. However, there has not been a defining of the interreligious ecotheological leadership, a model of leadership conducted together from various religions leader to address ecological problems.

The purpose of this research is to construct an interreligious ecotheological leadership and to reflect how such leadership is conducted in environmental science perspective. To achieve that objectives, this research used qualitative methods. Research data has been gained through seven months' involvement with the victims, that is the citizens experiencing brutal displacement in Tambakrejo, Semarang City of Indonesia. The data is combined with a documentary film "Tambakrejo #BergerakBersama" and to be analyzed using the theory-developing research method as a desk-research type to construct the interreligious ecotheological leadership model as it has been conducted in the praxis. This research has demonstrated how important the interreligious ecotheological leadership is in the environmental science perspective for the ecological problems which must be addressed together. The results can inspire anyone in facing a similar case elswhere. The result is an eco-justice implementation for the poor and the oppressed. The results also show five traits that mark interreligious ecotheological leadership as mentioned in the discussion of this paper.

Keyword:ecological problems (issues), environmental science, interreligious ecotheology, interreligious ecotheological leadership

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Authors: **A Hemadri Naidu, J Naga Muneiah**

Paper Title: **Detection of Truth iDiscovery in Big iData Social Media Sensing Applications**

Abstract:With the rapid growth of online social media and ubiquitous internet connectivity, social sensing has emerged as a new crowd sourcing application paradigm of collecting observations (often called clams) about the physical environment from humans or devices on there behalf. A fundamental problem n social sensing applications les n effectively ascertaining the correctness of clams and the reliably of data sources without known ether of them a prior, which s referred to as truth discovery. While significant progress has been made to solve the truth discovery problem, some important challenges have not been well addressed yet. First, existing truth discovery solutions did not fully solve the dynamic truth discovery problem where the ground truth of clams changes over time. Second, many current solutions are not scalable to large-scale social sensing events because of the centralized nature of there truth discovery algorithms. Third, the heterogeneity and unpredictably of the social sensing data traffic pose add tonal challenges to the resource allocation and system responsiveness. n this paper, we develop a Scalable and Robust Truth Discovery (SRTD) scheme to address the above three challenges. n particular, the SRTD scheme jointly quantifies both the reliably of sources and the credibly of clams sung a principled approach. The evaluation results on three real-world data traces (.e., Boston Bombing, Pars Shooting and College Football) show that the SSTD scheme s scalable and outperforms the state-of-the- art truth discovery methods n terms of both effectiveness and efficiency.

Keyword: Big Data, SRTD, Data Sparsity, Robust, Social Media Sensing

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Authors: **Manish Mahajan, Santosh Kumar, Bhasker Pant, Kireet Joshi, Vikas Tripathi**

Paper Title: **PSO Optimized Nearest Neighbor Algorithm**

Abstract:Data mining can be considered to be an important aspects of information industry. Data mining has found a wide applicability in almost every field which deals with data. Out of the various techniques employed for data mining, Classification is a very commonly used tool for knowledge discovery. Various alternatives methods are available which can be used to create a classification model, out of which the most common and apprehensible one is KNN. In spite of KNN having a number of shortcomings and limitations in it, these can be overcome by with the help of alterations which can be made to the basic KNN algorithm. Due to its wide applicability, kNN has been the focus of extensive research and as a result, many alternatives have been performed with wide range of success in performance improvement. A major hardship being faced by the data mining applications is the large number of dimensions which render most of the data mining algorithms inefficient. The problem can be solved to some extent by using dimensionality reduction methods like PCA. Further improvements in the efficiency of the classification based mining algorithms can be achieved by using optimization methods. Meta-heuristic algorithms inspired by natural phenomenon like particle swarm optimization can be used very effectively for the purpose.

Keyword: Classification, Data mining, kNN, Particle Swarm Optimization, Principal Component Analysis.

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Authors: **Anagha Prakash, Rajiv Nair**

Paper Title: **Perception of Fresh Graduates towards Job Portal Sites**

Abstract:Job portal sites are one of the effective technologies that deal with employment or careers in today’s world. Job portal sites offers vast number of job opportunities. This study aims to determine the factors that influence the perception of fresh graduates towards job portal sites. From this study we are able to find out why fresh graduates prefer sing job portal sites. Job portal sites helps people to find employment. Data was collected by mailing questionnaire to 233 fresh graduates in Kerala. The questionnaire was built by incorporating various variables like Productivity, User friendliness, Efficiency, Convenience, Quick response, Corporate preference, Information provision, Security, Privacy, Service quality, Extended services and Career opportunities from previous researches. The questionnaire consisted of 27 questions of which 23 were on a 5 point Likert scale. Factor analysis was used for analyzing the data. The results obtained shows factors such as efficiency, productivity, user friendliness, extended services and information provision influence the perception of fresh graduates. The study is not restricted to just one or two job portal sites, it is generalized and therefore the results are more reliable. The findings of the study also showed that most of the fresh graduates prefer Naukri.com to apply for jobs and also that most prefer using free services. We are also able to identify a problem in using job portal sites viz the job seekers often receive spam mails. The results from the paper can be used by job portal sites to improve their services. The paper provides the various factors that can be incorporated in the job portal sites to improve their services.

Keyword: Fresh graduates, Job portals, Job seekers

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Authors: **S Nirupama, Pamireddy Sindhu, N. Divya Sri, P. Lakshmi Durga Bhavani**

Paper Title: **Using Feature Extraction and Classification Methods of Movie Opinions Predication**

Abstract:Film rankings and analysis at sites like IMDb (Internet Movie Database) square measure ordinarily employed by picture show goers to make your mind up that movie to look at or obtain next. Currently, picture show goers base their choices on that movie to look at by staring at the ratings of films in addition as reading a number of the reviews at IMDB. Sentiment analysis could be a different field of different opinion where the methods of analysis are targeted on feature extraction and selection technique of emotions and opinions of the individual's audience towards selected methods from semi-structured, structured or unstructured matter information. This paper, we focus on our techniques of sentimental analysis on IMDB picture show review information. To survey the sentimental words method to classify the polarity of the picture show review on a scale of highly dislikes highly liking and performing different extraction feature and positioning of reviews. It uses these options to train our multilable classifier to classify the picture show review into its correctable.

Keyword: Feature Extraction and Selection, Opinion Mining, Sentiment Analysis, Movie Review.

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Authors: **Roman Aleshko, Ksenia Shoshina, Irina Vasendina, Aleksandr Bogdanov, Aleksandr Karpov**

Paper Title: **Creation of Methods for Automated Determination of Forest ParametersBased on Data from UAVS**

Abstract:The article presents a scientific study on the use of aerial photographs obtained by unmanned aerial vehicle (UAV), for the automated collection of data on forest resources in the taiga forests of the European North of Russia.

On the example of the trial plot, a technique is described for automated allocation of crown contours, calculation of the trunk diameter and timber stock in the forest area. The methodology used morphological methods for processing digital images, geographic information tools for representing and processing spatial information, as well as the results of statistical observations of leading scientists in the field of forestry.

The results have been verified in the field in several plots. The technique is applicable to automate the process of thematic interpretation of orthorectified aerial photographs with a spatial resolution of five to ten centimeters per pixel. The experiments presented in the article were carried out on images of forests in the north of the European part of Russia. The research results are used for regular automated updating of information on forest resources.

Keyword:digital image processing, aerial photographs, satellite images, UAVs, forest area, updating of information.

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Authors: **Mona A. Mansour, Ahmed M. Samieh, Amr M. Radwan and Eslam A. Ahmed**

Paper Title: **Responses of Groundwater Lowering Systems: Empirical Equations Via Field Records**

Abstract:This study aims to evaluate the accuracy of analytical equations which are mostly used in the design of dewatering systems using deepwells. This is accomplished by analyzing the data obtained from dewatering systems executed in twenty different sites within the Egyptian Nile Valley and Delta. The studied cases included gravity flow (unconfined aquifer), artesian flow (confined aquifer) and mixed flow (semi-confined aquifer) cases. For each of the considered sites, the actual discharge from pumping drilled wells and the actual drawdown of the groundwater table were measured. Besides, a pumping test was performed at each of these sites. The field data was then analyzed by adopting the empirical analytical equations to assess the responses of groundwater to the implemented lowering systems. The obtained results showed that the actual monitored drawdown values were not in good agreement with the analytical results. Therefore, practical correlation factors, based on data from the investigated sites and a comprehensive parametric study, were derived to enhance the results of the analytical equations.

Hence, by implementing such cumulative drawdown correlation factors in the empirical equations, a more accurate assessment of the expected drawdown values can be attained. For aquifers within the Nile valley and Delta, average cumulative drawdown correlation factors of 0.7, 0.65 and 0.8 were found to be satisfactory for unconfined aquifers, confined aquifers, and semi-confined aquifers, respectively.

Keyword: Dewatering systems, groundwater flow, aquifers, analytical equations, pumping test, in-situ monitoring.

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Authors: **A Arul Peter**

Paper Title: **Emission from Compression Ignition Engine using Biogas Blends with Diesel as a Fuel**

Abstract:A study on performance and emission of compression ignition (CI) engine has been made by utilizing biogas blends at different loads. The flow rate of biogas with air was important parameter to get the desired results. The blend of 30% with diesel was optimum which yielded optimum emission characteristics. Higher specific fuel consumption and lower brake thermal efficiency was observed when the proportion of biogas mixes with diesel in comparison with neat diesel. The out coming results from the experimental investigation exhibited reduction in NOx emission and smoke opacity. The other emissions hydrocarbon (HC) and carbon monoxide (CO) has been higher than diesel. The use of biogas as an alternative fuel in correct proportion with diesel can meet the energy demand on scarcity of conventional fuel.

Keyword:CI engine, CO, , Emission, HC, NOx.

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Authors: **S. Ponsubbiah, Sanjeev Gupta**

Paper Title: **Characterisation of Shoe Soling Material Prepared by using Rubber and Leather Solid Waste**

Abstract:The ultimate aim of this research is to develop footwear soling materials from solid waste generated from leather industry. The Chrome shaving from the leather sector is used as a solid waste in this study. Styrene butadiene, Nitryl, Ethylene propylene monomer (EPDM) and Isoprene elastomers were used for this research. The rubber and chrome shavings mixes were prepared by using industrial two roll mill. Various propositions of rubbers, chrome shavings and nano fillers were characterised in this research. The developed soling materials were tested for physical testing like hardness, abrasion resistance, tensile strength, density and elongation at break and compared with compared with commercially available soling material. In this research four different experiments has been conducted among the four experiments the soling material prepared using a isoprene rubber-70 Phr and EPDM rubber -30Phr with chrome shavings -50 Phr and KLN(Silica based) nano fillers- 7 Phr meets the required parameters of commercial soling material. Hence, it is concluded that chrome shaving wastes from tannery in soling material preparation is one of the best remedy for the environmental issues.

Keyword:• Phr – Parts per hundred parts of rubber

- EPDM-Ethylene propylene Diene Monomer

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- NBR-Nitryl Rubber
- SBR-Styrene butadiene Rubber
- SEM-Scanning Electron Microscope

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269.	**Authors:**	**Amirkhan R. Mulla, Sachin S. Patil**
	Paper Title:	**Micro Clustering Methodology for Document Objects using Deep Learning Techniques**

Abstract:Large data clustering and classification is a very challenging task in data mining. Various machine learning and deep learning systems have been proposed by many researchers on a different dataset. Data volume, data size and structure of data may affect the time complexity of the system. This paper described a new document object classification approach using deep learning (DL) and proposed a recurrent neural network (RNN) for classification with a micro-clustering approach.TF-IDF and a density-based approach are used to store the best features. The plane work used supervised learning method and it extracts features set called as BK of the desired classes. once the training part completed then proceeds to figure out the particular test instances with the help of the planned classification algorithm. Recurrent Neural Network categorized the particular test object according to their weights. The system can able to work on heterogeneous data set and generate the micro-clusters according to classified results. The system also carried out experimental analysis with classical machine learning algorithms. The proposed algorithm shows higher accuracy than the existing density-based approach on different data sets.

Keyword: Document Classification, NLP, Deep Learning, RNN, Micro Clustering.

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Authors: **Gondi Yasoda Devi, Gurrala Venkateswara Rao**

Paper Title: **Artificial Intelligence Based A* Optimization Routing in Mobile Ad Hoc Networks**

Abstract:A Mobile Ad Hoc Network (MANET) is a hotchpotch of nodes with mobility feature, the established network utilization is dynamically outlined based on temporary architecture. In MANETs, the challenging and vital role is played by the routing protocols performance factors under different condition and environments. The routing protocols are liable to handle many nodes with limited resources. There exits many routing protocols in MANETs, one of the main key note that has to be considered in designing a routing protocol is to observe that the designed routing protocol is having an proportionate effect on network performance. The existence of obstacles may lead to many geographical routing problems like excess consumption of power and congestion of data. The aim of this paper is to take the assistance of A* algorithm that finds the walk-able path avoiding the concave obstacle in the path relaying on the gaming-theory model[29]. This algorithm decreases the delays in packet transmission and in turn increases the success rate of transmission. We take into consideration path length, penalty for node availability as probability of forwarding criteria and processes effective packet transmission. The simulated results analyse the performance of our protocol over other conventional algorithms based on congestion cost, path length, node availability penalty, delay, packet loss, throughput.

Keyword:MANETS, A*, Penalty of Node Availability, Path Length, Heuristic.

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Authors: **Kumar Neeraj, J. K. Das, Hari Shanker Srivastava**

Paper Title: **Design of Self Controllable Voltage Level Circuit (SVL) for Low Power and High Speed 12t Sram at 15nm Technology**

Abstract:Due to trend of decreasing the device Size and increase in the chip density, the complexity in design increased and it became very complex. The main factor which is main concern in this step is Power dissipation. This can be occurring in many forms like Dynamic, subthreshold leakage and Gate leakage. For every situation the designer has to try to reduce this Power Dissipation factor. In this paper we designed a low power 12T SRAM by using the 15nm technology. SRAMs have large number of applications in high speed registers, microprocessors, small memory banks, general computing applications etc. Therefore delay, power, speed, leakage current and stability are the main concerns. These parameters are in trade off to each other. This paper focuses on the leakage current, power and stability in 12T SRAM bit -cell. We introduce a circuit "self - controllable Voltage Level (SVL)" circuit. The main task of this circuit is to reduce the stand-by leakage power of 12T SRAM. In our Work, We are using the Cadence Virtuoso simulation tool for simulating our circuit. After Comparing our results to the previous methods used for reducing the power leakage we found that there is reduction in average power compare to the previous methods used for power reduction techniques.

Keyword:SRAM, SVL 15nm,Cadence, 12TSRAM, Leakage current, Static Noise Margin(SNM).

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Authors: **B. V. R. Ravi Kumar, A.Sudheer Raja, K. Vijaya Krishna Varma**

Paper Title: **Experimental Behaviour of Tensile Properties of Aa2014-T6 Aluminium Alloy using FSW and Gtaw Process**

	Abstract:In the bringout research work carried out the comparative study of weld characteristics of Aluminium Alloy AA2014-T6 weldments, joined by employing two processes namely Friction Stir Welding (FSW) and Gas Tungsten Arc Welding (GTAW). FSW was performed with three different geometrical tool pin profiles like triangular, square, pentagon with process variables like tool rotational speed of 1400rpm, traverse speed of 86mm/min and tool tilt angle 3º. GTAW process was carried out by using constant current welding (CCW) and pulse current welding (PCW) at a frequencies of 2Hz and 4Hz respectively. This work lead to study the Ultimate Tensile Strength (UTS), 0.2%Yield Strength (YS) and % Elongation (%El) of AA2014-T6 weldments produced by FSW and GTAW. **Keyword:**Aluminium Alloy 2014-T6, FSW, GTAW, UTS, 0.2 % YS, % El. **References:** 1. Muthukrishnan, M., and K. Marimuthu. "Some studies on mechanical properties of friction stir butt welded Al-6082-T6 plates." In Frontiers in Automobile and Mechanical Engineering-2010, pp. 269-273. IEEE, 2010. 2. Zhao et al. "The influence of pin geometry on bonding and mechanical properties in friction stir weld 2014 Al alloy." Materials letters59, no. 23 (2005): 2948-2952. 3. Mishra, Rajiv S., and Z. Y. Ma. "Friction stir welding and processing." Materials science and engineering: R: reports 50, no. 1-2 (2005): 1-78. 4. Patil, H. S., and S. N. Soman. "Experimental study on the effect of welding speed and tool pin profiles on AA6082-O aluminium friction stir welded butt joints." International Journal of Engineering, Science and Technology 2, no. 5 (2010): 268-275. 5. Kumar et al. "An Experimental Investigation to Find Out the Effect of Different Pin Profile Tools on AA 6061 T6 and AA 2014 T4 with Friction Stir Welding." International Journal for Technological Research in Engineering 2 (2015): 1622-1625. 6. https://www.google.com/url?sa=i&source=images&cd=&ved=2ahUKEwj_jMGsqrfmAhVm6nMBHbw0C8cQjRx6BAgBEAQ&url=https%3A%2F%2Fwww.hindawi.com%2Fjournals%2Famse%2F2014%2F105713%2Ffig1%2F&psig=AOvVaw2gJ4_1XfqyzmeDleQHckDA&ust=1576488191513492 7. https://www.google.com/url?sa=i&source=images&cd=&ved=2ahUKEwiUrZPSqrfmAhV-63MBHS6tCZEQjRx6BAgBEAQ&url=https%3A%2F%2Fen.wikipedia.org%2Fwiki%2FGas_tungsten_arc_welding&psig=AOvVaw1oarjdmpGQodQHIxRJ0hIE&ust=1576488280297156	**1566-1569**
273.	**Authors:**	**A. Nagaraju, P. Sandeep Kumar, M. Meena, S. Vijaya Bhaskar Reddy**
	Paper Title:	**Impact of Retention of Slump on Growth of Ready Mixed Concrete**
	Abstract:In these days the Ready Mixed Concrete (RMC) plants were giving a back bone support for construction and concrete industries. As the infrastructure increases, concrete demand also increasing proportionately due to huge benefits of concrete, consequently, number of ready mixed concrete plants were also increase proportionately to supply the concrete according to the demand. Those who are fed up with the site mixing and environmental problem associated with them, they are opting for RMC. The growth of RMC is increasing from metropolitan cities to villages. One of the key factors for the growth of RMC is retention of slump till reach the construction site by using super plasticizer. In the present study, the growth of RMC industry from 1990's in India was presented. An experimental study was done on Slump retention capacity of concrete with fly ash, GGBS and lime Stone powder with 0.4% of admixture dosage. **Keyword:**Growth of RMC, slump retention capacity, Super plasticizer, Ready mix concrete **References:** 1. Tarek UddinMohammed, Tanvir Ahmed, Shibly Mostafiz Apurbo, Tahir Absar Mallick,Farhan Shahriar, Abdul Munim, Mohamma Abdul Awal, Influence of Chemical Admixtures on Fresh and Hardened Properties of Prolonged Mixed Concrete, Hindawi ,Advanc in Materials Science and Engineering ,Volume 2017, Article ID 9187627, 11 pages. 2. D.Gordon, P. Kshemendranath, setting up of Ready Mix concrete industry in India, international conference, Dundee, Sept 99. 3. Manjunatha L R, Sandhya R Anvekar, "History of ready-mixed concrete in India", ABBS Management Business a Entrepreneurship Review, Volume: 6 Issue: 1 October 2014 - March 2015 ISSN: 0976 – 3341. 4. Rahul Kumar, Dr. J.P. Tegar, "Critical Analysis of Properties of Ready Mix Concrete with Site Mix Concrete of Smart Road Project International Research Journal of Engineering and Technology, Volume: 05 Issue: 06, June-2018, e-ISSN: 2395-0056. 5. Bogdan Cazacliu, Anne Ventura, "Technical and environmental effects of concrete production: dry batch versus central mixed plan Journal of Cleaner Production 18 (2010) 1320-1327. 6. Vijaykumar R Kulkarni, "Evolution of RMC in India", The Master builder - July 2012. 7. Rahul Mahajan, Reuben Buthello, "Quality Control of Ready Mixed Concrete", IOSR Journal of Mechanical and Civil Engineerin Volume 12, Issue 5 Ver. V (Sep. - Oct. 2015), PP 01-07, e-ISSN: 2278-1684,p-ISSN: 2320-334X. 8. Sohail Afzal, Zishan Raza Khan, "A Review Paper on Factors Affecting Ready- Mix Concrete Delivery Pattern", Internation Journal of Construction Engineering and Management 2018, 7(3): 97-100. 9. TableEvangeline.K , Dr.M.Neelamegam, "Effect of Superplasticizer on Workability and Mechanical Properties of Self-Compactin Concrete", IOSR Journal of Mechanical and Civil Engineering, e-ISSN: 2278-1684, p-ISSN: 2320-334X, PP 18-29. 10. Nabil Bella, Ilham Aguida Bella , and Aissa Asroun "A review of hot climate concreting, and the appropriate procedures for ordina jobsites in developing countries", MATEC Web of Conferences 120, 02024 (2017) ,ASCMCES-17,. 11. R. H Dhakal , C. Wanichlamlert 2 "Slump Retention of Concrete by Time Splitting of Superplasticizer Dose" 1 School of Civ Engineering and Technology, Sirindhorn International Institute of Technology, Thammasat University,2014.	**1570-1574**
274.	**Authors:**	**Sachin Gee Paul, CS Ravichandran**
	Paper Title:	**Hybrid Regenerative System on Power Electronic Transformer for Electric Traction Applications**
	Abstract:Regenerative braking has been playing a significant role in electric locomotives to overcome dissipation of the kinetic energy as heat. For high-speed rail topologies, Power electronic transformer based locomotive has the only solution to achieve it. For the isolation purpose and to reduce the weight of the locomotive, a feasible method by substituting loco transformer with a transformer with high frequency design. With the increasing awareness of energy consumption more electrified locomotives now moving to "Green	**1575-1581**

Energy ". This paper aims to describe the importance of hybrid electric locomotive system when compared to conventional one. By integrating the regenerative braking on power electronic transformer with a storage medium will be a promising solution for the future high-speed rails. The simulation of IGBT based dc to dc converter with traction inverter with storage medium has simulated from MATLAB/ SIMULINK platform.

Keyword: Line Frequency Transformer (LFT, Power Electronics Transformer (PET), State of Charge(SOC), Variable Voltage Variable Frequency(VVVF), Voltage Source Inverter (VSI)

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Authors: **U.A. Yusop, K.H. Tan, H.A. Rahman**

Paper Title: **Structure and Thermal Behaviour of BSCF-SDC-Ag Composite Cathode for Solid Oxide Fuel Cell**

Abstract:Solid oxide fuel cell (SOFC) component has always under development to enhance catalytic activity. Components such as anode, cathode and electrolyte must have better structure and behavior for good SOFC performance. Traditional $Ba_{0.5}Sr_{0.5}Co_{0.8}Fe_{0.2}O_{3-\delta}$ (BSCF) cathode in solid oxide fuel cell application has been deterred several inappropriate circumstances such as high thermal expansion coefficient (TEC) and chemical instability. $Sm_{0.2}Ce_{0.8}O_{1.9}$ (SDC) electrolyte and Silver (Ag) are added into BSCF to overcome the problem and has better material characterization and thermal stability, The composite cathode powder BSCF-SDC was prepared by high speed ball milling technique with mixture of 50wt% BSCF and 50wt% SDC commercial powder. The powders were then dried and calcined at 950^{o}C for 2 hour. Silver (Ag) with 1wt%, 3wt% and 5wt% were milled respectively with BSCF-SDC by low speed ball milling technique. The developed composite cathode was then examined by X-ray powder diffraction (XRD), Fourier transform infrared spectroscopy (FTIR), dilatometer and Thermogravimetric Analysis (TGA). The vivid distinct phase of BSCF, SDC and Ag and absence of additional secondary phase was confirmed by XRD analysis indicating good phase structure compatibility. This also assured that less chemical reaction was happened during low speed milling process for BSCF-SDC-Ag as minor secondary phases are detected. However, milling process at high speed and high calcination temperature did destruct single phase of BSCF in BSCF-SDC composite cathode. However, Ag obtains its role to retain back the BSCF crystalline phase. The higher the percent of Ag added, the higher the BSCF peak retain. The absence of addition bonding in FTIR analysis demonstrating excellent structure compatibility of BSCF, SDC and Ag during milling process. There was no significant additional bonding

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appeared in BSCF-SDC-Ag after milling process. The thermal expansion coefficient (TEC) were determined using dilatometer, manifesting closer TEC mismatch between BSCF-SDC-Ag cathode composite and SDC electrolyte compared to BSCF-SDC. TEC is essential to be matched as it could prevent spallation during elevated operation temperature of SOFC. TGA analysis indicated cathode composite experiencing very less changes of weight when it was heated up 1000^{o}C. BSCF is revealed of decomposition occurring after 800^{o}C. Result revealed that Ag exhibited desirable thermal and structure compatibility with BSCF-SDC as promising SOFC cathode which beneficial from medium scale automobile to high scale power plant application.

Keyword:BSCF composite, Cathode, SOFC

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Authors:	**Amanpreet Kaur, Keshav Kumar, Vidyotma Gandhi, Amanpreet Sandhu, Bishwajeet Pandey**	
Paper Title:	**Frequency Scaling Based Power Efficient Current Source Design on FPGA**	

Abstract:Power deficiency is one of the major problems that the whole world is facing now. This is happening because of the immense increase in the world's population and the global increase of industrialization. So in order to minimize the consumption of power, an energy efficient current source is designed with the help of Field Programmable Gate Array (FPGA). This work gives light on how the power variation takes place in a current source with an increase in frequency value. In this research work, the current source is implemented on 28 nanometers (nm) Airtx-7 FPGA. The work is demonstrated on Xilinx 14.1 ISE simulator. VHSIC Hardware Description Language (VHDL) is used for writing the code of current source. The frequency of current source with Airtx-7 FPGA is increased from 100MHz to 5GHz. It is analyzed that the total power consumption is less as the value of frequency is low. So it is always advisable to operate the device at a lower frequency range in order to save more energy.

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Keyword: Field Programmable Gate Array (FPGA), Artix-7, Frequency, Power and Current source.

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277.	**Authors:**	**A. S. Patel, P. D. Patil**
	Paper Title:	**Experimental Simulation of Solar Aqua Lens Concentrator**

Abstract:The lens was built from readily available materials in the market. The liquid used in lenses were tap water, 30% sugar solution in the hyper elastic low density polyethylene foil. The experimental set up was exposed to sunlight. The focal length point and light intensities were measured at that focal point spot, concentration ratio at each focal point was calculated. The concentration ratio is inversely proportional to focal point. The experimental data was tabulated. The theoretical lens radius of curvature and deformation of lens was validated by ANSYS finite Element Modeling (FEM).The lens deformation of hyper elastic foil was also compare with AUTO CAD. Solar aqua concentrator can be used where high focusing thermal application is required.

Keyword: Solarconcentrator, Solarintensity,Refractive index

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278.	**Authors:**	**Mukesh Kumar, Jamshed Aslam Ansari, Abhishek K. Saroj, Rohini Saxena**
	Paper Title:	**An Equilateral Arm Inverted U-Slot and Notch Loaded UWB-CPMA with Rendered Ground Plane**

Abstract:In this paper, a microstrip fed modified circular patch monopole antenna (CPMA) with the rendered ground surface is presented for bandwidth enhancement. In order to extend the bandwidth of a demonstrated antenna, symmetrical slots and equilateral arms inverted U-slot are loaded on the partial ground and patch individually. For additional enhancement in the secured bandwidth, symmetrical notches are truncated from the bottom of the patch. The antenna has a dimension of 30x40x1.6 mm3, which is erected on low cost, FR-4 substrate with relative permittivity ϵ_r=4.4, permeability μ=1 and loss tangent of tanδ=0.02. The proposed design is analyzed and simulated using high frequency structure simulator (HFSS). The analyzed results are validated through experimented results. The proposed antenna offers a bandwidth of 140.2 % with a maximum radiation efficiency of 94 % over the frequency scope of 2.54 GHz to 14.47 GHz. The cross-polarization levels are also found to be 20-30 dB and 12-23 dB smaller than the co-polarized level for E-plane and H-plane respectively. For better execution and assessment of proposed antenna, a parametric study has been done to analyze the performance of antenna with variations in the length of a partial ground conductor beside the other parameters. The exhibited antenna is suitable for various applications incorporating WiMAX, WLAN, UWB, C-band, X-band and UWB.

Keyword:CPMA, MPA, MSA, UWB, Rendered Ground, Bandwidth Enhancement, Radiation Efficiency.

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279.	**Authors:**	**Balika J Chelliah, Ayush Anand, Ashutosh Kaul, Mayank Pathak**
	Paper Title:	**Temperature Capstone and Humidity Monitoring using Iot with Machine Learning Algorithm**

Abstract:Controlling temperature of a controlled environment is an important aspect of any workspace whether it is a commercial space or a domestic space. If temperature or humidity is either increased or decreased of any area, it becomes very difficult to be there and thus if possible, should be kept in comfortable conditions at all times. One way to do it is to monitor and control the temperature of the closed surroundings using the concepts of Machine Learning and IoT. This research's purpose is the same to find an easy and an inexpensive way to

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find an alternative to it which is based on microcontroller, a Wi-Fi Module, Buzzer, few Temperature sensors and a Solderless board. The system is designed in such a way that the temperature can be monitored whether it is in the given range of temperature as prescribed by the user. We are also enabling to predict the temperature which will predict the temperature according to the temperature graph being made as by the input taken by the Temperature Sensors using Polynomial Regression Algorithm. Also, if the temperature of the enclosed area is not in the threshold range as suggested by the user, the System will automatically send a notification to user(s) via SMS, E-Mail or even through a Telegram Channel .

Keyword: Monitor and Control temperature; IoT; Microcontroller; Wi-Fi Module.

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280.

Authors: **Ekta Tiwari, Rajesh Singh**

Paper Title: **A Fuzzy AHP Methodology to Analysis the Impact of Employee Motivation in Manufacturing Industry**

Abstract:In this competitive era where employee's performance and productivity decides his or her value, motivated employees stands on the top priority of every organization. This is because a motivated employee not only adds revenue to its organization but also helps in creating brand value as only a motivated employee can generate customer satisfaction leading to customer brand loyalty. In a developing country like ours Manufacturing sectors play a very important role in the economy of the country. Through its modern implements manufacturing sectors brought great changes in the traits of agriculture which helped the agricultural sector in modernizing itself by introducing various manufacturing tools. A motivated employee through his or her performance and productivity help the manufacturing sector lowering its cost of units produced which directly benefits the society as the product will be available to them in better quality and at cheaper rate. Thus, the performance of the employees in the manufacturing sector directly or indirectly influence the pricing policy of any product. Hence a motivated employee is way more necessary not only for the benefit of organization but for our economy and the society as whole.

Keyword: Employee motivation, productivity, manufacturing sector, customer satisfaction

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Authors: **Drevendy Harianto, Seng Hansun, Andre Rusli**

Paper Title: **Java Script Data Transformation Library using Fork Join Pool and Web Workers Technology**

Abstract:Transforming large amounts of data takes a lot of processing time so that the optimization technique is required. One way that can be used to perform optimization is multithreading. Nowadays, processor is proliferating. The average processor in community is multi-core processor that can do parallel processing. Prior to the emergence of Web Workers, JavaScript is a poor programming language for parallel programming. The emergence of Web Workers allows JavaScript to do a better job in parallel programming. Fork Join Pool is a method that implements the Divide and Conquers algorithm, so it is suitable for the use in multithreading. This data transformation library was created by implementing the ForkJoinPool method using Web Workers technology in JavaScript. This program is written in JavaScript and HTML language. Based on results of testing phase that has been done, it is proven that ForkJoinPool method can be implemented using Web Workers technology in JavaScript as a data transformation library. In addition, it can be concluded that the data transformation library usage affects the speed of data transformation which depends on the data transformation complexity. The higher the complexity of data transformation performed, the effectiveness in the use of data transformation libraries will increase.

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Keyword: Fork Join Pool, JavaScript, Data Transformation Library, Multithreading, Web Workers.

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Authors: **Priti Kulkarni, Haridas Acharya**

Paper Title: **Email Thread Identification and Management**

Abstract:Nowadays, Email communication is use as primary communication tool in the business domain as well as in education sector. Due to massive incoming emails, overflowing inbox is one of the problems faced by email users. There are several reasons for such a situation, one of them being the unnecessary mass of thread emails. They are retained in inbox even when they are not necessary. Even if this email is deleted from inbox, the next message as thread email will hit your inbox. Wrong use of 'reply-all' tab adds to this situation called "Email storm". Thread emails are often generated because of users' careless habit to click on 'Replyall' button. It is almost like a reflex action on their part. This work intends to solve the problem of email storm on two fronts :

- Identification of thread emails
- Automatically controlling thread email

The three datasets Din, Dadm and Dexam from academic domain are used as training data. The experimental outcome shows that 'In-Reply-To', 'References' and additionally 'thread-index' are the dominant features in identifying thread emails. We have used these features to derive thread classification strategy. The developed algorithm is used to test four datasets Dcor, DCS, DF1 and DF2. Using this method accuracy upto 99.91% is achieved. Further, the paper also suggests access control rights strategy to control email storm. The model is proposed for controlling thread emails in education domain. The control mechanism will help system administrators to control email traffic.

Keyword: Email classification, thread, Reply email, access control, email storm

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Authors: **R. Seranmadevi, M. Felisiya**

Paper Title: **Traffic Creation for E-Wallet through Gamification Strategy**

Abstract:Electronic Wallet vendors are the financial service providers to the customers using software known as an 'App'. Many customers feel more comfortable with cash free transaction as they always have a fear of insecurity to carry huge money, however every time the customer try to make purchases, they have to login, either by net banking or cards in order to complete the overall transaction. Many Electronic Wallet vendors expect huge traffic, frequent usage and customer loyalty towards their app. The gamification is emerging in e-commerce and the banks are looking for new ways to get more customers on their websites. In order to fulfill their expectation, Electronic Wallet vendors merge with ecommerce and design their app integrating gamification concept in such a way that the customers often transact and get satisfied with this application and it will reduce such huge process of net banking and make the customer to get engaged on their app. Therefore, it is important to study what are the most appreciated features of the website that could influence the behavior of the customer to use an electronic banking system with gaming features. Gaming techniques in Electronic Wallet app emerged as a dominant strategy in the digital payment space. E-commerce players and Electronic Wallet vendors have to make easy guidance, incentivize, and personalized experiences to the customers in order to

achieve maximum conversions.

Keyword:e-commerce, e-Wallet, Mobile banking, Gamification.

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Authors: **Bimal Chandra Roy, Satyaki Sarkar, Rajan Chandra Sinha, Indraneel Srivastava**

Paper Title: **Identification of a New Industrial Area Based on a Macro-Level Analysis – a Case of Bokaro District, Jharkhand, India**

Abstract:Locating a new industrial area involves a strategic decision that covers several criteria with consideration for socio-economic benefits and environmental sustainability alongwith technical, and political issues. These different criteria are described using a number of indicators in terms of quantity and quality with some possible uncertainty. Decision making thus requires appropriate tools for data collection, analysis and knowledge management to address this multidisciplinary situation. This paper tries to find out the comprehensive method for industrial site location, a sustainable approach for finding the most suitable solution. Identifying the location determinants and site suitability models used for allocating an industrial site is observed to be an essential aspect of siting of industry, as such; level of decision making is dependent on predefined constraints. Multicriteria decision making method (M.C.D.M) seems to be a consistent and efficient solution which forms the basis for locating multiple sites for industrial activity in any delineated area.

Keyword: Land Appropriation, Location Determinants, Site Suitability, Predefined Constraints, Multicriteria Decision Making (M.C.D.M)

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Authors: **Savita A., Vasanth**

Paper Title: **Security Framework for Cloud Computing using Fragmentation and Homomorphic Encryption**

Abstract:An invention of cloud computing technology comes with numerous benefits for IT industries and others. The data store in the cloud can be easily shared among stakeholders irrespective of their location, i.e. data availability is very good. Nowadays organizations are switching to cloud platform for storing and sharing data in a decentralized manner. This is significantly reduces the economically burden to the organization. As the data are accessible through network, so major concern is to maintain the data confidentiality. Data breach in any form organization losses their trustworthy, and this affect the reputation of the organization. This is very important to maintain the privacy and security of data all the time. There are so many works has been proposed by many researchers to secure data in the cloud by using various encryption techniques. In this paper, we proposed a security mechanism to maintain confidentiality of data. This method is combination of multiplicative homomorphic encryption algorithms along with vertical fragmentation of data. We have tested our scheme based on crypto delays, communication delays, and query processing delays with an existing work. The results

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obtained show that our method out-perform the existing work. The results obtained show improvement with the proposed method.

Keyword: Security, homomorphic-encryption, cloud-computing, fragmentation, delay.

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286.	**Authors:**	**Rashmi Mishra, Manvinder Singh, Sudesh Kumar Garg**
	Paper Title:	**Temperature Distribution on Sticky Non Compressible Fluid Flow using DHPM Technology**

Abstract: This paper deals with the analysis of temperature distribution on sticky non compressible fluid flow by utilizing DHPM (Differential Homotopy Perturbation Method) for stretched and uniform heat flux. This technique is developed for solving many distributed and temperature velocities. The exact solution for temperature distribution is compared by the final scattering medium final result to get the accurate results. This technique gives approximately 80% accuracy results compared to exact results.

Keyword: Kinematic viscosity, Similarity transforms series solution, variation iterative method, and prandtl number.

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Authors: **N. Rao Cheepurupalli, B. Anuradha**

Paper Title: **Proximate and Ultimate Charaterization of Coal Samples from Southwestern Part of Ethiopia.**

Abstract:This study aimed to characterize the coal in terms of proximate and ultimate analyses. The analytical assessment of properties such as volatile matter, moisture, fixed carbon, and ash content are very important to know the quality of the coal. The proximate analysis results shows that the moisture content varies from 13.4 to 22.6 wt%, the fixed carbon varies from 26.7 and 38 wt%, the ash content varies from 11.9 to 25.7 wt%, the volatile matter varies from 23.8 to 36.5iwt%. The analytical results show that the Carbon content varies from 48.60 to 70.68 wt%, Oxygen content varies from 42.29 to 57.38 wt%, the hydrogen content ranges from 4.43 to 5.28 wt%, the sulphur varies from 1.35 toi3.04 wt%, the Nitrogen content varies from 1.86 to 2.34 wt%. Proximate analysis and calorific data show that Ethiopian coal is in the soft coal series (lignite to bituminous coal) and is genetically classified as humic, sapropelic and mixed coal. The present study helps to characterize the coal type and also highlights the importance of chemical parameters in characterizing the coal besides, tracing the depositional environment and also helps to the economical evolutions of the deposit.

Keyword: Coal, Proximate analysis, Ultimate analysis and Ethiopia.

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Authors: **R. Karthika, S. Murugan**

Paper Title: **TSD-CPI: Traffic Sign Detection Technique Based on Centroid Position Identification in Text Mining**

Abstract:Detecting and Identifying traffic sign is a complicated issue due to the changing variability in cloud conditions. Hence, it is necessary to identify and detect of traffic signs during journey. The traffic text sign identification fails due to noise, blur, distortion and occlusion. In order to identify the text, a technique should be adapted that recognizes the text with improved accuracy. In existing algorithms such as Histogram of Oriented

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Gradients (HOG) and Support Vector Machine (SVM) were not detecting the Centroid position. In this paper, the text Centroid of position sign is detected using text color, font and size. During journey, if the text is blurred, this Traffic Sign Detection Technique based on Centroid Position Identification (TSD-CPI) K-means algorithm for clustering is possible to use. As a result, it detects the text that with improved accuracy. Ultimately, it reduces the processing time. The experimental result reveals that using WEKA-3.8 with the proposed technique shows improvement over the existing algorithms in terms of precision and Recall which enhance the accuracy in text mining.

Keyword: Histogram, Gradients, Support Vector Machine, Centroid and K-Means.

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Authors: **Nurul Afizah Adnan, Aini Nazura Paimin, Abdullah Azraai Hasan**

Paper Title: **Readiness of Polytechnic Manufacturing Program in Malaysia towards Future Industry**

Abstract:Polytechnic education was introduced in Malaysia with funding from the World Bank in 1969. The purpose is to be one of Malaysia's education provider to access quality in produce holistic, enterprising and competitive human capital in line with global industrial needs. Currently, there are 37 polytechnics in they that offered quality programs with relevant curriculum. One of the programs is Diploma in Mechanical Engineering (Manufacturing) is competent skills in the field of mechanical engineering to fulfill the demand of workers in the engineering manufacturing sector. For remain competitive especially in terms of future technology advancement, this program needs to be revised so that the students who are produced can meet the requirements of the future industry specially to face the challenging in Industrial Revolution 4.0(IR4.0). To get the clear situation, the qualitative study had been conducting with the interview method to identify how far the adequate of polytechnic manufacturing program towards IR4.0 regarding the readiness of student competency, the effect of the changes and actions taken by polytechnics management. From the findings, it shown that the manufacturing programs in Polytechnic Malaysia need to arrange the strategy to make sure the student or the graduates that they develop can fulfil IR4.0 skills and competencies related.

Keyword: Readiness, Manufacturing, Polytechnic, Future Industry, Industrial Revolution 4.0.

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Authors: **Petr Skobelev, Igor Mayorov, Dmitry Novichkov, Elena Simonova**

Paper Title: **Methods and Tools for Designing a Multi-Service Platform for Agricultural Enterprises**

Abstract:The paper dwells on the problems of developing an internet platform for support of decision-making and production management for an agricultural enterprise. The described system is an open environment which is capable of integrating third-party services with the application-programming interface (API), each service being an autonomous software component (agent) with its own criteria and target. Thus, planning is done through continuous interaction of agents within the multi-service platform, using the knowledge base for storing various data on crops, such as conditions of crop growing, characteristics and peculiarities of crop production, pests, plant diseases, soil types and their specific features, technological processes (maps) for crop growing, application of fertilizers and plant protection products, crop production economy, classes of agricultural machines and equipment. Thus, the result of scheduling is the work plan for a given time horizon. On top of that, the paper describes the first prototypes of smart services and their interaction, as well as the next steps for future research.

Keyword:precision agriculture, agricultural management, decision-making support, multi-agent coordination, multi-service platform, ontology.

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Authors: **S. Dharshini, M. Monicasubashini**

Paper Title: **Enhanced BGMM Based Lightweight Key Generation and Authentication Method for WBAN**

Abstract:Wireless Body Area Network (WBAN) is one of the best modern inventions that supports medical science significantly. Reliability, Latency, Security and Power consumption are the vital parameters to determine the quality of a WBAN architecture. Security Key Generation and Authentication are the important tasks which impact the vital parameters. A Body Gauss-Markov Mobility model (BGMM) based lightweight key generation and authentication method is introduced in this work to improve the quality of WBAN. Enhanced BGMM, Legacy Key Generator and Idle State Key Manager are the three functional blocks used to construct the proposed system. These new function blocks are introduced in this work to achieve higher throughput, packet delivery ratio and security. The proposed work is also indented to reduce the communication delays and power

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consumption. Adopting new body sensor nodes and discarding unused or damaged nodes from existing network without affecting other operating nodes is the requirements of modern WBAN as well. The proposed method named as “Enhanced BGMM based Lightweight Key Generation and Authentication method for WBAN” (EBLKGAW) is deigned to manage the network stability during adaptation of new nodes and elimination of existing nodes.

Keyword: Body Gauss-Markov Mobility model, Lightweight Key Generation, Security, Wireless Body Area Networks

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Authors:	**M. Rajesh Khanna, C. Thirumalai Selvan**
Paper Title:	**Enhanced Gesture Recognition Text to Speech Browser for Visually Challenged**

Abstract:Web has understood an astonishing change in human access to learning and information. The need of plotting an upgraded program for the ostensibly tried. The present structure helps the apparently tried people to use the information in the web satisfactorily, by changing over the substance in the site page to voice for their better use. The customer can look through the substance and indispensable information from the web by simply composing the URL. The site page substances are removed by JSOUP HTML parser. The isolated substance will be scrutinized out by Text to Speech (TTS) engine. The weights in this system are the apparently tried need to type URL the required in the change box, there are no contrasting options to control TTS and there are no decisions for investigating through site pages. The proposed structure is to arrange talk affirmation engine.

Keyword: Web Browser for stupor; content upgrade; substance to-talk

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293.	**Authors:**	**Banka Jyothsna Rani, Ankireddipalli Srinivasula Reddy**
	Paper Title:	**Optimal Placement of Distributed Generation Units in Radial Distribution System using Hybrid Techniques**

Abstract:Reconfiguration is a process that supports to eliminate the power loss from a distribution network and this process have the capability to reduce the losses up to a specific point. Additionally, loss minimization may be calculated through the presentation of Distributed Generation (DG) units. Conversely, the incorporation of DG into the distribution network at an improper position may cause higher in losses and fluctuations in voltage. In the meantime, the uncertainty in voltage may produce partial power failure in the system. For that reason, it is essential to deliberate the stability boundaries in DGs position and sizing in the Radial Distribution System (RDS). In this research paper, hybrid Binary Particle Swarm Optimization (BPSO) with Flower Pollination Algorithm (FPA) is proposed for the ideal reconfiguration process and placing the DG in the 69-bus RDS. BPSO is applied to identify the best DG reconfiguration and FPA is proposed to determine the optimal DG size. This technique narrowly changes the DG location in every load bus of the network that delivers the minimum value of the objective function, which is considered as the finest candidate for DG connection. The simulation outcomes indicate the proposed method is more effective in reducing the power loss from 224.9804 to 27.2183 KW with the reduction of 88.8972% when compared to existing algorithm.

Keyword: Binary Particle Swarm Optimization (BPSO), Distributed Generation (DG), Flower Pollination Algorithm (FPA), Radial Distribution System (RDS), Reconfiguration.

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Authors: **Prakash Chandra Sahu, Ramesh Chandra Prusty**

Paper Title: **Robust Frequency Control of an Islanded AC Micro Grid using BDA Optimized 3DOF Controller under Plug in Electric Vehicle**

Abstract:The article presents the effectiveness of a Binary Dragonfly Algorithm (BDA) based 3-DOF controller for robust frequency control in an islanded AC micro-grid system under different uncertainties. A micro-grid is incorporated with the integration of various renewable energy based distributed generations (DG). The proposed micro-grid system is structured with wind turbine generator (WTG), Photo voltaic (PV) system, Diesel engine generator (DEG), Micro-turbines (MT), Aqua electrolyzer based Fuel Cells(FC) and with few energy storage devices i.e Battery energy storage (BES) and Flywheel energy storage (FES). Moreover a chargeable plug in electric vehicle is effected as load side demand while obtaining frequency control mechanism in micro-grid system. However large dynamics, low inertia and incurred uncertainties of most DG system affects system performance especially on system frequency seriously. In view of this to obtain robust control mechanism in islanded micro-grid system the article proposes a novel Binary Dragonfly Algorithm based 3-DOF controller to ensure servicing of good quality power to remote consumers. The performances of proposed BDA optimized 3-DOF controller is compared with conventional PSO, GA technique based PID and PI controller in order to justify supremacy of proposed approaches. Finally it has been suggested that the proposed BDA optimized 3-DOF controller is more effectiveness over other optimized controllers.

Keyword: Micro-grid; Binary Dragonfly Algorithm (BDA); Diesel engine generator (DEG); Micro-turbines (MT); 3-DOF Controller; Plug in Electric Vehicle (EV)

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Authors: **Wan Mohd Hirwani Wan Hussain**

Paper Title: **Challenges Blockchain Technology and Initial Coin Offering (ICO) in Healthcare from Legal Perspectives**

Abstract:This paper reviews the empirical literature on Initial Coin Offering (ICO), blockchain technology and impact for healthcare based on legal perspectives. The rise of blockchain technology has given impact especially

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on financial sector and business, there are very limited research been done about the implications of this technology in healthcare sector. Based from the literature it shows that it is still scarce about blockchain and initial coin offerings in healthcare industry. The scope of this article is twofold which is i) to understand the impact of blockchain technology and initial coin offering in healthcare industry; and 2) to understand the legal challenges especially in initial coin offerings. The revolution of blockchain technology will provide more positive impact in healthcare sector and can be used as new strategic directions for future research.

Keyword: Initial Coin Offering (ICO), Blockchain technology, Healthcare management system, legal, digital tokens, digital coins.

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Authors: **S.Rooban, S.Jaya Sai Sri, T.Jayaram, D.Praveen Krishna**

Paper Title: **Cross Coupled Differential High Speed Comparator**

Abstract:Power efficiency and high speed comparator is presented. ,n-MOS transistors are used to design preamplifier stage and the latch stage. Both stages are controlled by a special clock circuit. By using clock circuit we can achieve enough pre-amplification gain. At the evaluation phase, the latch is activated with a delay to obtain sufficient pre-amplification gain and avoid extra power consumption. At this phase transistors are cross coupled to increase the preamplifier gain and to lower the input voltage common mode of the latch is used to strongly activate the n-MOS transistors (on the latch input) and reduce the delay. This circuit is designed with n-MOS transistors due to its inherent superiority over the p-MOS transistor. The proposed cross coupled comparator reduces the power and delay compared to conventional CMOS comparators.

Keyword: Comparator,Dynamic,Latch,Conventional, Preamplifier, Evaluation phase, Reset phase, Delay.

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Design and Analysis of Dynamic Comparator with Reduced Power and Delay,International Journal of Science and Research, November 2015,vol-4 ,issue 11,pg:1025-1029

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Authors: **Nguyen Phan Duy, Vu Ngoc Anh, Nguyen Minh Tuan Anh, Polikutin Aleksei Eduardovich**

Paper Title: **Load-Carrying Capacity of Short Concrete Columns Reinforced with Glass Fiber Reinforced Polymer Bars Under Concentric Axial Load**

Abstract:In this paper, 1 group of plain concrete square columns 150×150×600 mm and 11 groups of concrete columns reinforced with glass fiber reinforced polymer (GFRP) were cast and tested, each group contains of 3 specimens. These experiments investigated effect of the main reinforcement ratio, stirrup spacing and contribution of longitudinal GFRP bars on the load carrying capacity of GFRP reinforced concrete (RC) columns. Based on the experiment results, the relationship between load-capacity and reinforcement ratio and the plot of contribution of longitudinal GFRP bars to load-capacity versus the reinforcement ratio were built and analyzed. By increasing the reinforcement ratio from 0.36% to 3.24%, the average ultimate strain in columns at maximum load increases from 2.64% to 75.6% and the load-carrying capacity of GFRP RC columns increases from 3.4% to 25.7% in comparison with the average values of plain concrete columns. Within the investigated range of reinforcement ratio, the longitudinal GFRP bars contributed about 0.72%-6.71% of the ultimate load-carrying capacity of the GFRP RC columns. Meanwhile, with the same configuration of reinforcement,

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contribution of GFRP bars to load-carrying capacity of GFRP RC columns decreases when increasing the concrete strength. The influence of tie spacing on load-carrying capacity of reinforced columns was also taken into consideration. Additionally, experimental results allow us to propose some modifications on the existing formulas to determine the bearing capacity of the GFRP RC column according to the compressive strength of concrete and GFRP bars.

Keyword: Reinforced concrete, Short column, GFRP, Concentric load.

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Authors: **Sunil Kumar, Vijay Kumar Lamba, SurenderJangra**

Paper Title: **ILivSpot: Secure Biometric System based on Iris Liveliness Detection**

Abstract:Liveliness detection aims to determine whether the iris presented to the sensor belongs to a live subject or it is a fake one. Liveliness detection is to classify input sample into one of the category between fake and real. This work proposes an improved biometric system which recognizes the liveliness of the iris samples in order to increase the security. In this work, the dataset of UBIRIS.v2 is used where input samples are segmented into pupil, sclera and iris and these individual segments are filtered to enhance the quality of the samples. Further, the segmentation using Fuzzy C-Mean and K-Mean clustering methods is done. Different features are extracted and fused thereafter. Fused features are then used as a training data. For testing purpose, a combined dataset of original and fake samples is used and accuracy of the system is calculated with a novel hybrid classifier AHyBrK which is a combination of ANN and KNN. Results achieve 97% accuracy in differentiating between fake and live which is 8.2% better than KNN and 5.1% better than ANN.

Keyword: Iris, Liveliness, Segmentation, Filters, Fuzzy C-Mean, K-Mean, Features, Fusion, ANN, KNN, AHyBrK Classifier, Hybrid Classification.

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Authors: **Iqra Javid, Sushant Bakshi, Aparna Mishra, Rashmi Priyadarshini**

Paper Title: **Air Pollution Monitoring System using IoT**

Abstract:Air pollution has a very adverse impact on human beings and our ecosystem. With the rampant industrialization and exponential growth in automobile industry, the air gets highly contaminated by harmful toxins & gases released from their emissions which results into many hazardous diseases like asthma, bronchitis, mental illness, lung cancer etc. Hence the air pollution should be carefully monitored and efficiently controlled. Using internet of things (IoT) we can simultaneously gather pollutants level in highly explicit areas and transmit the data to centralized controlling and monitoring unit where suitable steps can be taken to warn people so as to reduce the level of pollutants in the air significantly.

Keyword: Air pollution, Air pollutants, Air quality index, Internet of things, Sensors.

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Authors: **A.V. Sridhar, D. Vamsi Teja, K.V.V.N.R.Chandra Mouli, Balla Srinivasa Prasad, Padmaja Anipey**

Paper Title: **Effect of Infill Percentage on Properties of FDM Printed GPLA/PETGs**

Abstract:Additive Manufacturing termed by ASTM standard referred to in short as, the technology of fabricating a model based on creating a three-dimensional Computer-Aided Design structure. In the context of developing a product from digital data directly, widely involved various technologies. Amongst them, one being Fused Deposition Modelling (FDM) which supervises the principle of AM, is widely known for developing a polymer-constructed sturdiest range of materials or parts are having operative mechanical properties. Even though, the main problem exaggerates that, the quality of the output still denies due to which void parts are created from bubbles trapped leading to failure of parts under mechanical stresses. Since with 15% infill, stronger parts are estimated and their mechanical properties are studied. Since the work signifies the influence of 15% infill on mechanical properties in estimating stronger products by layered addition process. The experimental methodology is based on structural infill parameters determining goal in achieving and studying material mechanical properties.

Keyword: Additive Manufacturing; fused deposition modelling; tensile properties; PLA Blend; Infill percentage; 3D Printing.

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Authors: **Mochammad Haldi Widianto, Aris Darisman,**

Paper Title: **Water Monitoring and Automatic Feed in Aquarium Based on Microcontroller**

Abstract:technology needs to be applied to all items that are still not fully automated. But in reality still not all automation tools implement all parts working automatically. As with maintaining fish in an aquarium which is a hobby of urban residents who work manually and routinely, such as feeding fish regularly then monitoring pH, etc., therefore transferring the work of caring for fish and aquariums is important to be done automatically. Using a microcontroller and other sensors combined into an integrated system can automate activities such as raising fish in an aquarium. Automatic activities include monitoring the pH of water and feed supplemented with reports in the form of SMS as information for aquarium owners. By using an automatic water and fish feed monitoring system based on a microcontroller, aquarium owners can find out the pH value of aquarium water even though they know how to calculate it and will feel calm when traveling for a long time because the aquarium has been automated, where the bait will be given automatically according to the schedule and predetermined portion. The formation of tools using the waterfall method commonly used to design technology so that research is expected to know the impact of the formation of this waterfall. Microcontroller results are tested using a black box to measure the original size with the size of the results of the microcontroller. the results show that if this automation is done using the waterfall method and tested using a black box successfully produces automation in the aquarium. .

Keyword: Microcontroller, Aquarium Water pH Measurement, Automatic Feed..

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Authors: **Sharad Kumar Soni, P.K. Jain, Rakesh Kumar**

Paper Title: **Settlement Behaviour of Soft Clay Bed Reinforced with Stone Column under Sustained Loading**

Abstract:This research paper investigates the behaviour of soft clay reinforced with stone column under sustained loading. Experiments were conducted in the laboratory on stone column reinforced prepared soft soil bed of kaolin having strength of 7.5 kPa with aggregate of size 2.5 to 10 mm as column material. The stone column with four diameters of 38.1, 50.8, 63.5 and 76.2mm were constructed which correspond to low to high area replacements ratios (i.e. 6.93% - 26.49%). The plain and reinforced soft clay beds were subjected to a sustained load of 150, 200, 250 and 300 kPa where each applied load has been maintained for 24 hours and the settlement behavior of composite ground was taken into account. The test results represent the settlement of reinforced soil bed decreases with increase of column diameters. The settlement reduction ratio is a measure of ground improvement which increases with area replacement ratio. The experimental and theoretical results values were compared as per IS15284 (Part 1): 2003 with reference of stress concentration ratio 'n'(The ratio of stress in the column to the stress of surrounding ground area). The % variation in theoretical and experimental results is in the range of 50% and therefore the theoretical procedure needs to be revised

Keyword:soft clay, stone column, compactive effort, replacement method, settlement reduction ratio

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Authors: **Anchana P Belmon, D.Jeraldin Auxillia**

Paper Title: **A Novel Delay Based System for Type1 Diabetes using Xilinx System Generator 14.5**

Abstract:In this paper an enhanced delay based system is proposed with a parallel execution of PID and Pseudo PID controllers using a Xilinx System Generator14.5. This paper presents simulation results on Direct synthesis, IMC and lambda based designs in both PID and Pseudo PID separately and parallel. The control methodology is suited for the people under Type 1 Diabetes Mellitus and it will maintain a glucose insulin homeostasis.

Keyword: Diabetes Mellitus, Pseudo PID controller,Pancreas.

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Authors: **Rubén Villafuerte D., Jesús Medina C., Rubén A. Villafuerte S., Victorino Juárez R.**

Paper Title: **Two Iterative Methods to Solve Nonlinear Equations of Load Flows**

Abstract:This paper presents the results obtained when two iterative methods are applied to the solution of non-linear equations that model the load flow in electric power systems. Two iterative methods are applied; the first consists of a simplification of the rectangular form the traditional Newton-Raphson method, the second is a

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hybrid method and relates the simplified form proposed here and a four-step Newton-type iterative method. The convergence characteristic and the mathematical preliminaries of the iterative four-step method are included in the paper. The methods were used to calculate the voltages at each node of the IEEE test system of 118 nodes and a distribution system of 40 nodes. In each method, the formation of the Jacobian matrix, widely used in traditional forms of load flows, is avoided and only elementary operations are carried out, impacting the execution times for the test systems used, being of the order of 15.6 to 279 milliseconds. The maximum error found is for the 118 node system and is of the order of 3.7%.

Keyword: Iterative methods; load flows; nonlinear equations; power systems; Newton-Raphson.

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Authors:	**R Lokeshkumar, Jothi K R, Anto S, R Kiran kumar, Hari Narayanan**	
Paper Title:	**Prediction of Multi Drug Resistant Tuberculosis using Machine Learning Techniques**	

Abstract:Mycobacterium Tuberculosis bacteria is the primary cause for Tuberculosis. TB is one of the main reasons of mortality around the world. Multi Drug Resistant Tuberculosis (MDR-TB) is a type of tuberculosis bacteria which are resistant to anti-TB drugs, drugs like isoniazid (INH) and rifampin (RMP). Different Machine learning approaches has been widely applied to predict MDR TB. Here, we review different Machine Learning Approaches to predict MDR-TB. Different feature estimation methods, execution of distinct machine learning models also have been explored. Additionally, the utilization of the distinctive machine learning system models for distinguishing the dis-functionalities of MDR-TB in the recent decades has been talked about.

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Keyword:MDR-TB, Machine Learning, Genome Sequencing, isoniazid (INH) and rifampin (RMP).

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Authors: **Anthony S. Tolentino**

Paper Title: **Development of Alternative Electrical Energy Utilizing Thermo Electric Generators (TEG) for Refrigerators**

Abstract:The study aims to harness electrical energy from the wasted heat of refrigerator by using the temperature difference of the hot side surface and cold side surface. The use of Seebeck effect was applied to gather the said electrical energy. The system is composed of a charge controller to regulate the output of the thermoelectric generator as well as provide a direct current type of voltage. The energy that comes from the charge controller is stored thru a backup battery bank and will be used for the charging of the different low voltage devices like cellphones, tablets, etc. The charging time of the batteries going from zero percent charge to 100% charge depends on the output current of the TEG and also dependent on the temperature difference of the refrigerator. A current of 1.5mA coming from the TEG will provide 50mins charging time for the battery. The total mean parameters for the output system are the following: mean voltage = 5.82V, the mean current = 0.8695 mA, and the mean power output = 4.60165mW.

Keyword:alternative form of energy, thermoelectric generator, charge controller, green engineering, batteries

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Authors: **S.Kalaiarasi , G. Leela , K. Nikesh , Ch. Prasad**

Paper Title: **Traffic Flow Calculation using Big Data**

Abstract: Traffic is one of the primary issues in world. It makes numerous medical issues people on foot and bikers. It is additionally one of the practical setting of a nation. U.S.A. alone squandered almost $160 billion of fuel in year 2014 alone. Mumbai remains at no.1 position in the rundown of most exceedingly awful traffic stream while Delhi taking no.4 position. In this task we use BIGDATA for guaranteeing that the explorers doesn't get struck in the rush hour gridlock. BIGDATA can enable clients to settle on better travel choices, lighten traffic blockage, diminish carbon outflows, and improve traffic activity proficiency. Our goal of traffic stream forecast is to give a superior traffic stream data. Traffic stream forecast has picked up its significance because of fast development in urban areas and increment in rush hour gridlock blockage.

Traffic stream forecast intensely relies upon authentic and ongoing traffic information gathered from different sensor sources, including inductive circles, radars, cameras, portable Global Positioning System, publicly supporting, internet based life, and so on.

In this paper, we propose a profound learning-based traffic stream forecast technique.

Keyword: Deep learning, real time information, traffic stream prediction.

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308.	**Authors:**	**Dipak S. Patil, R. R. Arakerimath, P. V. Walke, R. S. Shelke**
	Paper Title:	**Effect of Different Operating Conditions on Performance of Commercial Low-Temperature Thermoelectric Modules**

Abstract:In the field of waste heat recovery, thermoelectric generators (TEG) are used to convert waste heat to electric power. This system attracts the attention of researchers to make it more and more efficient. The performance of thermoelectric module (TEM) plays a crucial role for thermoelectric system. Appropriate selection of thermoelectric module is one of the important criteria for enhancing the power output and conversion efficiency of thermoelectric generator. In this work, the effect of various operating conditions on performance of thermoelectric modules was experimentally investigated. Three commercial bismuth telluride (Bi2Te3) thermoelectric modules (TEM1, TEM2, and TEM3) were experimentally tested to find the best performance module for low-temperature waste heat. The open-circuit voltage, power output, and conversion efficiency were measured at various operating conditions. Different operating parameters such as water mass flow rate, heater voltage, hot and cold side temperature of thermoelectric module, and external load resistance were considered for this work. An electric heater was used as a heat source and water used as a cooling fluid at heat sink side. It was observed that the TEM1 shows maximum power output of 0.31, 0.71 and 1.25W, for temperature ranges of 80-100, 100-150, and 150-200 oC respectively. TEM3 achieved maximum power output 0.81W for temperature range of 100-150 oC. TEM1, TEM2 and TEM3 have the maximum conversion efficiency of 1.37, 0.60, and 1.64 % respectively. The TEM2 having less power output and conversion efficiency for temperature range of 80-200 oC compare to TEM1 and TEM3. However, the TEM1 is more appropriate for temperature range of 80-200 oC and the TEM3 is also suitable for the temperature range of 80-150 oC.

Keyword: Bismuth telluride; Conversion efficiency; Open circuit voltage; Power output; Thermoelectric module.

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Authors: **V. Sangavi , P. Thangavel**

Paper Title: **An Efficient Radical Image Encryption Based on 3-D Lorenz Chaotic System**

Abstract:We propose a new encryption strategy based on the Lorenz chaotic system. Scrambling and diffusion techniques are carried out availing the chaotic sequences rendered by Lorenz system. The chaotic sequences tactically clutter the pixel positions and curtail the relationship between the original image and the encrypted image.Wittingly a high-dimensional system delivers a well robust cryptosystem bearing good efficiency and resistivity. Here we demonstrate through dilated measures and statistical analyses that the proposed system prominently improves security scales and is also potential in withstanding to various sort of attacks. Securing images in cyber space became vital in communication for instance, military affairs, national security, diplomatic affairs, medical database and so on expanding its attention broadly.

Keyword: Cryptosystem, Diffusion, Lorenz Chaotic system, Scrambling.

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310. **Authors:** **Adhish P, Abhijith K, Sree Ram M**

	Paper Title:	**Adaptive Traffic Light Control using Google Maps API at Multiple Road Intersections**	
	Abstract:In today's urbanized world one of the major and regular crisis we face is Traffic Congestion, this crisis is caused by an increase in the usage of private vehicles adjoint with the availability in the land resources present. This major crisis has increased the attention of the research and development community and has led to the development of various Intelligent Traffic Management System(ITS).In this paper we present a solution by using Google Maps API which is a crowdsourced data used for detecting trafficked areas and these values are transferred to a private cloud storage where a traffic congestion calculation algorithm is present and this algorithm is used to categorize the status of congestion for a particular intersection. **Keyword:**Traffic Light control, Google Maps API, Traffic Congestion Management. **References:**1. Detian Zhang, Yuan Liu, AN Liu, Xudong Mao, and Qing Li, efficient path processing by cloud-based mapping services, IEEE, published on 11 July 2014. 2. MD.Al Amin, MD. Rofi Uddin supervised by Mrs. Sadia Hamid Kazi, Traffic monitoring using GPS data. 3. Divya Jayakumar Nair, Flavien Gillies, Sai Chand, Neeraj Saxena, Vinayak Dixit, multi city urban traffic using crowd sourced data, PLOS ONE, published on 12 March 2019. 4. Inam Ullah Khan, Muhammad Umar Khan, Hafiz Muhammad Salman, Syed Bilal Hussain Shah, Traffic light control using traffic density, Journal of American Academic Research (JAAR), volume 5 issue 2, published on June 2017. 5. Sumit Mishra, Devanjan Bhattacharya and Ankit Gupta, Congestion traffic light control using google maps, MDPI, published on 14 December 2018. 6. Marco Wiering, Jelle van Veenen, Jilles Vreeken, Arne Koopman, Intelligent traffic light control, published on 09 July 2004. 7. Binbin Zhou, Jiannong Cao, Jingjing Li, Traffic light control using wireless sensor network (WSN), International Journal on Smart Sensing and Intelligent Systems, volume 6, published on 05 September 2013. 8. Vipin Jain, Ashlesh Sharma, Lakshminarayanan Subramanian, Road traffic congestion in the developing world, published on march 2012. 9. Pawel Jaworski, traffic control using cloud computing, published on September 2013. 10. Sookung Lee, Mohamed Younis, Aiswarya Murali and Meejeong Lee, dynamic vehicular flow optimization, IEEE, published on 21-02-2019.	**1802-1806**
311.	**Authors:**	**B. Ganga Bhavani, G. L. N. V. S. Kumar, M. L. Rekha, B. P. N. Madhu Kumar, Raja Rao P. B. V.**	
	Paper Title:	**Classification of Spinal Muscle Atrophy Disease using SVM in Machine Learning**	
	Abstract:SMA is a genetic neuromuscular disease. It is a rare disease. It is caused by mutations in the survival motorneuron (SMN) gene that encodes SMN Protein. Maindifficult area of SMA is muscle weakness, causing withdifficulty with moving, swallowing or breathing. Thereare four types of SMA's. The primary objective of thispaper is to classify the SMA's by using support vectormachine classifier. Then we can easily predict the life span of the children based on the group of SMA. This disease is classified on the basis of age of onset and clinical course. **Keyword:**SMN1, SMN2, SVM, SVC, CPK, SMA Linear, RBF, Polynomial. **References:**1. The library won the IJCNN 2001 Challenge by solving two of three problems: the Generalization Ability Challenge (GAC) and the Text Decoding Challenge (TDC). For more information,see: http://www.csie.ntu.edu.tw/~cjlin/papers/ijcnn.ps.gz. 2. Bennett, K. P. & Campbell, C. (2000). Support vector machines: Hype or hallelujah? SIGKDD Explorations, 2(2). http://www.acm.org/sigs/sigkdd/ explorations/issue2-2/bennett.pdf. 3. Sch¨olkopf, B., Smola, A., Williamson, R. C., & Bartlett, P. (2000). New support vector algorithms. Neural Computation, 12, 1207–1245. 4. Hagenbuchner M, Cliff D P, Trost S G, Van Tuc N and Peoples G E 2015 Prediction of activity type in preschool children using machine learning techniques J. Sci. Med. Sport 18 426-31 5. N. Krishnaiah, B.Ganga Bavani "Automatically Prospecting Feature for Queries from Their Search Impact", International Journal of Engineering and Advanced Technology (IJEAT),ISSN: 2249-8958, Vol 9, Issue 1, October-2019. 6. Neumann D L and Thomas P R 2009 The relationship between skill level and patterns in cardiac and respiratory activity during golf putting Int. J. Psychophysiol. 72 276-82 7. N. Krishnaiah, "Design of Hierarchy Scheme for Mobile App", International Journal of Recent Technology of Engineering (IJRTE), ISSN: 2277-3878, Vol 8, Issue 1, May-2019. 8. Abdullah M R, Eswaramoorthi V, Musa R M, Maliki M, Husin A B, Kosni N A and Haque M 2016 The Effectiveness of Aerobic Exercises at difference Intensities of Managing Blood Pressure in Essential Hypertensive Information Technology Officers J. Young Pharm. 8000	**1807-1811**
312.	**Authors:**	**V. Sellam, R. Pushkala, V. Akshita, R. Nivetha**	
	Paper Title:	**Smart Trash Can**	
	Abstract:In the city being over populated, the excess amount of waste produced should be eliminated periodically. These wastes are being laid down, creating unhygienic conditions. Since the people available for these works are very less, the available workers need to be used efficiently. To make efficient use of employees an IOT (Internet of Things) based solution is proposed in the project where it indicates whether the trash can to be emptied in that area. When the trash can is full, an indication from sensor to micro controller is given. A cloud website is used to know the status of the trash can by the people living around. This network of systems works dynamically. Thus, this system puts an end to the overflowing of trash cans. It also reduces unwanted fuel consumption, avoids traffic and prevents diseases. This makes our city smart and clean.	**1812-1815**

Keyword: Arduino, cloud, garbage management, IOT, Smart Trash can, servo motor, wifi-esp8266

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Authors:	**Manivannan R., Rajasekar R., Nithish Vetrivel S., Praveen Kumar A., Nithesh Kumar K. S.**	
Paper Title:	**Design and Development of Roadside Waste Collector**	

Abstract:Cleaning has become a basic need of all the human beings. Throughout the world many researchers are conducting experiments in order to eradicate and solve the solid waste removal process. There should be improvising with innovative ideas and techniques which may ensure good health. If an equipment is developed it should be eco-friendly with its usage. All the designer people should be aware of its affects and advantages in preparing a equipment. It's a great task in order to improve the quality and standards of a equipment for its better usage. It should be designed by keeping the ergonomic aspects. Here in this paper it describes the solid waste removal principle and its working which has been prepared by the scrap materials for the domestic purpose only with low cost expenditure. A prototype model is also prepared which uses DC drive powered rotary brush with pneumatic controlled dust shifting which helps user to remove the waste and to maintain clean and hygienic environment and thus avoids health inequalities and safety concerns with regards to workers as well as common people.

Keyword:DC Motor, Rotary Brush, Pneumatic Cylinder.

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314.	**Authors:**	**Shabana Urooj, Advaita Dhariwal, Vandana Singh, Fadwa M. Alrowais**
	Paper Title:	**In Silico Antituberculosis Drug Designing using UCSF Chimera**

Abstract:For the humans' well-being, Mycobacterium Tuberculosis (MTB) is a fatal and adversary disease since years because of if its multidrug straining. MTB consumes nitrate as a substitute during breathing mechanism due to malingering of oxygen, therefore it increases the chances of survival. The nitrate/nitrite response (NarL) is a transcriptional governing protein. It is a two-constituent signal alteration mechanism used to stabilize nitrate enzyme that promote chemical drop and plan dehydrogenation. In this work, molecular docking using in-silico technique by benzofuran and naphthofuran byproducts has been performed. In-silico interaction of phosphodonors to NarL has been done. From the simulation results it is noticed that all compounds are binding to active site, therefore it is concluded that all benzofuran and naphthofuran byproducts partake on the dynamic site of NarL and are able to perform as leading molecule. To obtain results, SwissDock, UCSF Chimera and Protein–ligand Docking is majorly utilized.

Keyword:docking, NaRL Protein, phosphodonors, protein-ligand, SwissDOCK, UCSF Chimera.

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315.	**Authors:**	**Sanya Taneja, Kartikeya Jha, Nakul Lakhotia, Vedanta Kapoor, Swarnalatha P.**
	Paper Title:	**Customer Feedback Analyzer**

Abstract:Product reviews always act as a great source of information for a company. These reviews record the customer's feedback on the product and services that the company provides. The problem that we face is that the number of reviews in these kinds of portals are in thousands for which manual analysis is time consuming and inefficient. So, we plan to make an automated system using machine learning which can do the job of analyzing large number of comments in seconds thereby increasing efficiency. These reviews which are posted online can be both positive and negative, categorizing them into broad categories like product defected, product size invalid, good fitting, excellent working etc., will ease the process for both consumers and sellers. This will help automate the process of Customer Resolution, as it takes a lot of time for an employee to manually sort each comment into various categories and then send it to the particular team for review. Additionally, trends can also be analyzed on these comments, such as which issue is most faced by consumers around a particular date/time. This project will efficiently extract the important topics of concern which the company should focus on and also change or improve in order to keep its customers happy and loyal.

Keyword: Customer Experience, Deep Neural Network, Natural language processing, Sentiment analysis

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Authors:	**G. Dharmalingam, Prabhukumar Sellamuthu**	
Paper Title:	**Optimization of Wear Process Parameters on 17-Cr Ferritic ODS Steel**	

Abstract:The main aim of this article deals with the wear behavior of mechanically alloyed 17-Cr oxide dispersion strengthened (ODS) Ferritic steel consolidated through Vacuum Hot Pressing (VHP) at temperature level of 1170 °C under pressure level of 60 MPa with 60 minutes as holding time and with rate of cooling of 50 ˚C /min and a vacuum level of 10-3 torr. The persuade of wear process parameters were investigated based on the load applied, sliding velocity and sliding distance at a temperature of 350°C on dry sliding track of 17-Cr Ferritic oxide dispersion strengthened steel (Fe-17Cr-0.35Y2O3-1.5ZrO2-4Al (%wt). Wear test was conducted in a dry atmosphere using a pin-on-disc wear testing machine. Wear behavior of 17-Cr Ferritic ODS steel was analyzed by using Taguchi approach. To examine the process parameter during high temperature wear rate analysis of variance and signal to noise ratios were used. During the wear analysis sliding distance was found to be influential parameters of wear rate for 17-Cr Ferritic oxide dispersion strengthened steel succeeded by functional load and sliding velocity. The regression model was found to calculate the rate of wear for 17-Cr Ferritic oxide dispersion strengthened steel.

Keyword: High temperature wear, 17-Cr ODS ferritic steel Vacuum Hot Pressing (VHP), Taguchi method, analysis of variance (ANOVA), regression model.

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317.	**Authors:**	**Shraddha Kulkarni**	
	Paper Title:	**Perceived Leadership Traits of Employees Based on Physical Attributes and Social Desirability: an Indian Perspective**	
	Abstract:The general perception about the importance of physical attributes and social desirability at the work place is very high. It has been considered as one of the major aspects for leadership traits. The purpose of this paper was to find the significance of physical appearance and social desirability in creating a positive impression at workplace. This study also tried to find out if these two attributes add to the perceived leadership capabilities of employees. In the present research, the author used a mix of qualitative & quantitative research methods. In the first stage, a structured interview has been conducted for 90 managers from multinational firms and they have been asked about their perception on team members' physical appearance and social skills. In the second stage, a questionnaire survey has been conducted for 270 managers from banking sector. It has been observed that in both phases of research the respondents found the confidence, relevant work knowledge, communication skills and qualification more appealing as compare to dressing style and appearance and leadership traits are not directly related to the physical attributes and social desirability. However, the research also indicates that dressing style and grooming helps in creating positive impression and the acceptability of the leadership is easier in case of people with better physical & social aspects. This research will provide a useful insight to the practitioners and HR professionals to highlight the importance of communication skills, social skills, confidence for developing leadership traits amongst the employees. It will also help in communicating the importance of physical attributes such as dressing sense, body language, etiquettes etc.

Keyword: Physical attributes, social desirability, leadership traits

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318.	**Authors:**	**Nayani Uday Ranjan Goud, Alka Sawale, Bhupal Rakham**	
	Paper Title:	**Buckling Load Predictions of Panel and Shell using Vibration Correlation Technique**	
	Abstract:Prediction of buckling loads is a very important phenomenon for aerospace and marine industry. In this paper buckling predictions of a submarine hull is considered by using a shell element and a rectangular panel is considered by using a plate element. The buckling load of a submarine hull can be predicted by using vibration correlation technique. Determination of these buckling loads can be carried out based on the boundary conditions of the submarine hull structure. The technique will be carried by considering both surface conditions and to determine the crippling load of a hull. This paper aims to use VCT for a submarine hull structure used in marine, ocean and can compare the results to aerospace industry by considering a rectangular panel for which buckling is predicted using vibration correlation technique . VCT is not very extensively used in case of thermal buckling. However in this paper, VCT is applied to verify the thermal buckling of a simple thin rectangular	

panel subjected to parabolic loading.

Keyword: Buckling, Thermal buckling, Vibration correlation technique.

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Authors: **Edgardo M. Santos**

Paper Title: **Assessment and Analysis of a Grid-Tied Photovoltaic System with Net-Metering for State University in Pampanga**

Abstract:The utilization of renewable and eco-friendly source of energy which is also referred as “Alternative Energy” is now being recognized around the world, particularly the Solar Energy. The study proposes a grid-tied photovoltaic system with net-metering that generates electricity that is linked in the electrical grid, where in excess power is sold to the utility company. The objective is to improve the cost of energy consumption of Don Honorio Ventura State University Main Campus by designing and assessing Electrical Power System that lessens the dependency on the Distribution Utility (DU). The design of the system used with respect to the roofing area per building is (3,464) 300 Watts polycrystalline PV panels, (2) uni-directional or (1) bi-directional meter for monitoring the import and export energy, and 30kW-100kW inverter to convert DC (direct current) to AC (alternating current).The computation of the savings was based on the total kWh used per month with the system installed and includes the excess or export energy that is generated from the PV solar panels. Through the assessment of the proposed system, it will surely help Don Honorio Ventura State University (DHVSU) Main Campus to save monthly electric bill and lessen the dependency of the University to the utility grid. Since DHVSU’s building are secondary metered by the Distribution Utility, there is a need to install separate PV System set-up tp meet the individual electrical requirement. The PV system will be installed via On-Grid Connection to the DU subject to the Net Metering rules and guidelines as stated by the Renewable Energy Act of 2008.

Keyword: Net Metering, Inverter, PV Solar Panel.

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320.	**Authors:**	**B. Sabitha, K. Akila, G. A. Aswath Radhakrishnan, G. Akshaay Krishnan, S. Naveen**	
	Paper Title:	**Automatic Medicine Vending Machine**	
	Abstract:In Pharmacies inside hospitals we can more often see lots of people waiting in queues to get the most common medicines. This wastes their time. There is also a possibility of human Error, which may become a major problem. So, in order to overcome that we decided to automate the process of Medicine Vending which is much faster and less error prone than Human pharmacist. Before meeting the doctor, the patient is issued a RFID card. After inspecting the patient, the doctor scans the RFID of the Patient in his RFID scanner which is connected with a microcontroller. Now the RFID value is pushed to web app provided to the doctor. The web app will be where the doctor inputs the medicine count in the respective text boxes. Now the prescription will be pushed to database from the web app. When the patient scans the RFID in the Automated Medicine Vending Machine placed at the pharmacy it retrieves the medicine count from the database and vends the medicines to the patient. **Keyword:**Wending machine, Tag, Scanner, Automation. **References:** 1. Sarika Oundhakar1, Department of Instrumentation Engineering, RAIT, Nerul, Navi Mumbai, India.," Automatic Medicine Vending Machine" Published by IJETSR,www.ijetsr.com ,ISSN 2394 – 3386 Volume 4, Issue 12, December 2017. 2. Vishal Tank,Sushmita Warrier , Nishant Jakhiya "Medicine Dispensing Machine Using Raspberry Pi and Arduino Controller" Published at Proc. IEEE Conference on Emerging Devices and Smart Systems (ICEDSS 2017) 3-4 March 2017, Mahendra Engineering College, Tamilnadu, India. 3. Shrikant Bhange, Kaveri Niphade, Tejshri Pachorkar, Akshay, "Automatic Medicine Vending Machine" , Published by IEEE computer society", Volume 4 Issue 3, Mar2015 4. Xiaolin Jia, Quanyuan Feng, Taihua Fan, Quanshui Lei," RFID Technology and Its Applications in Internet of Things (IOT)", Published at Researchgate, April 2012. 5. Sunil Kumar, Richa Pandey,"Design Of A Simple Vending Machine Using Radio Frequency Identification (RF-ID)", published in "ELK Asia Pacific Journals – Special Issue ISBN: 978-81-930411-4-7".	**1850-1853**
321.	**Authors:**	**Umang Dongre**	
	Paper Title:	**SOC Estimation of Non-Linear Lithium-Ion Battery using Modified Coulomb-Counting Method with RUL**	
	Abstract:Batteries are preferred source of energy in recent few decades, the development is vast. New development comes with new challenges, the coulomb counting method used to study battery behavior with an accurate measurement mechanism like estimating battery state of charge (SOC), battery's remaining useful life (RUL), working condition and changing tendency. To accomplish this experiment and algorithm efficiency, we used PIC18F MCU with IoT device to send data to the web server using GPRS, and can be utilized on an Electronic Vehicles (EV) and portable devices in real time to show what's really happening within the battery. The significant challenge of this method is, we might receive accumulative errors associated with initial SOC also the faults of quantities are undefined, hence to get over these restrictions, a part wise linear imprecise used with inconsistent constants to define the integrally non-linear relation amongst the SOC and open circuit voltage (VOC). In past few decades, Li-ion batteries has developed much consideration in EV applications as well as for mobile phone market due to its many advantages like, quick charging ability, more durable, light weight, good energy density, low rate of self-discharge etc. The SOC is key principle to find, control of Li-ion battery performance which is current area of interest in this publication. This paper will demonstrate how the SOC is controlled, observed with the help of Coulomb-counting algorithm. **Keyword:**Lithium-ion battery, Coulomb-counting, State of charge, Part wise linearization, RUL, Hardware implementation. **References:** 1. T. H. Wu, J. K. Wang, C. S. Moo, and A. Kawamura, "State-of-charge and state-of-health estimating method for lithium-ion batteries," in 2016 IEEE 17th Workshop on Control and Modeling for Power Electronics (COMPEL), pp. 1–6, June 2016. 2. Y. Nishi, "Lithium ion secondary batteries; past 10 years and the future," Journal of Power Sources, vol. 100, no. 1, pp. 101–106, 2001. 3. Plett, G.L. Extended Kalman filtering for battery management systems of LiPB-based HEV battery packs:Part 1. Background. J. Power Sources 2004, 134, 252–261. 4. Bhangu, B.S.; Bentley, P.; Stone, D.A.; Bingham, C.M. Nonlinear observers for predicting state-of-charge and state-of-health of lead-acid batteries for hybrid-electric vehicles. IEEE Trans. Veh. Technol. 2005, 54, 783–794. 5. W.-Y. Chang, "The state of charge estimating methods for battery: a review," ISRN Applied Mathematics, vol. 2013, 2013. 6. S. Piller, M. Perrin, and A. Jossen, "Methods for state-of charge determination and their applications," Journal of power sources, vol. 96, no. 1, pp. 113–120, 2001. 7. Kong. Soon. Ng, Chin-Sien Moo, Yi-Ping Chen, and Yao-Ching Hsieh, "Enhanced coulomb counting method for estimating state-of-charge and state-of-health of lithium-ion batteries," Applied energy, 2009. 8. I. Baccouche, A. Mlayah, S. Jemmali, B. Manai, and N. Essoukri Ben Amara, "Implementation of a coulomb counting algorithm for soc estimation of li-ion battery for multimedia applications," in Systems, Signals & Devices (SSD), 12th International Multi-Conference on, pp. 1–6, IEEE, 2015. 9. Baccouche, A. Mlayah, S. Jemmali, B. Manai, and N. Essoukri Ben Amara, "Implementation of an Improved Coulomb-Counting Algorithm Based on a Piecewise SOC-VOC Relationship for SOC Estimation of Li-Ion Battery," International journal of renewable energy research, pp. 11–6, IEEE, 2017. 10. Z. Zou, J. Xu, C. Mi, B. Cao, and Z. Chen, "Evaluation of model based state of charge estimation methods for lithium-ion	**1854-1862**

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Authors:	**N. Ramamurthy, K. C. T. Swamy, Gude Ramarao, H. Shravan Kumar**
Paper Title:	**Optimizing the Effect of Cropping and Rotation Attacks on Watermarked Images using Back Propagation Neural Network in DWT Domain**

Abstract:Hiding an image in another image is the technique used for copy write protection. In this proposed work, the watermark is inserted into blue plane of the cover image, In this watermark extraction and embedding process, the back propagation neural network in conjunction with biorthogonal wavelets is utilized to improve the efficiency. The performance is tested by normalized correlation coefficient. The imperceptibility of the watermark is tested by cropping and rotation attacks effectively.

Keyword: Watermark, Wavelets, neural network, rotation, compression.

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Authors:	**N. F. Abdel Salam**
Paper Title:	**Usage of Porcelain Insulators Wastes in the Preparation of Cement Based Building Units**

Abstract:Porcelain electrical insulators manufactured from refractory ceramic materials have to pass stringent tests prior to final acceptance. This causes large amounts of wastes to be available at the plant premises

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representing a waste of material besides being an environmental threat. In the present work, porcelain wastes were crushed and ground to pass 40 mesh screen and used as partial sand replacement in cement mortar cubes as first step for possible use in concrete works. The effect of particle size and percent addition on water of consistency and setting time of cement paste and flow behavior of mortars and their compressive strength was investigated. The results showed that the substitution of sand by the waste moderately altered most of the properties but helped raising the mechanical strength.

Keyword: Electrical porcelain – waste – cement – mortar.

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	Authors:	**Barath M, Rajesh S, Duraimurugan P**
	Paper Title:	**Experimental Exploration of Hybrid Metal Matrix Composite using Abrasive Water Jet Machining**

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Abstract:The abrasive mixed waterjet was with success utilized to chop several materials together with steel, metal and glass for a spread of business applications. This work focuses on surface roughness of hybrid metal matrix composite (AA6061, Al2O3, B4C). Machining was applied by AWJM (Abrasive Waterjet Cutting) at completely different parameters Water pressure, Traverse speed, Abrasive flow and stand-off distance. The reinforced composite was analyzed exploitation FE

SEM (Field Emission Scanning lepton Microscope) and distribution of reinforced was studied by AFM (Atomic Force Microscopy). For optimum results surface roughness was calculated.

Keyword: Surface roughness, Analysis of FESEM, Analysis of AFM, Al6061, B4C, Al2O3.

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Authors: **Nanasaheb Mahadev Halgare**

Paper Title: **Testing of Extract Load and Transform (ETL) in Assorted Dimensions and Perspectives**

Abstract:In day today technical field, we are working on data science. It is the field that increasing rapidly, data science is similar to data mining but if we need to perform data mining then it is necessary to have data warehouse .And if we are interested to create data warehouse then we need to perform Extract Load and Testing (ETL).ETL implies Extraction of data from various sources, Transform that extracted data into proper format and finally load the data into data house. The integration of data science with the ETL is quite prominent and required so that the higher degree of performance can be attained. In addition, the performance elevation is very important to have the testing with more accuracy.

Keyword: Extract Load Testing, ETL testing, Test case, Bugs.etc

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Authors: **Neeta Jayabalan, Zafir Khan Mohamed Makhbul, Jenny Marisa Lim Dao Siang, Nor Azim Bin Hj Ahmad Radzi, Muhammad Ashraf Bin Anuar.**

Paper Title: **E-recruitment Technology Adoption among Generation Z Job-Seekers**

Abstract:In line with the technological changes in the industry revolutionary era of the 4.0, today's organizations have also quickly adopted new or digital technology trends. One of these new trends is E-recruitment in human resource management. Online recruitment is also known as E-recruitment which is a HR software that uses technology in a particular web-based to guide and assist the hiring process in order to reduce the financial burden, improve the effectiveness of administrative and gain access to a wider pool of talent. A total of 230 data were collected from the Z generation respondents selected purposively convenience. The data was analyzed using the PLS structure equation model to identify the adoption of E-recruitment technology by generation Z. The results of the multi-level analysis showed that the expectation of positive results affects E-recruitment retrieval. Findings and suggestions provide valuable insights on E-recruitment and its implications in the modern era of revolutionary industry 4.0.

Keyword:E-recruitment; Technology Readiness Index; optimistic; discomfort; insecurity; innovativeness.

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Authors: **B. Balaji Bhanu, Mohammed Ali Hussain, Mahmood Ali Mirza**

Paper Title: **Adaptive Crop Monitoring System Based on Wireless Sensor Networks**

Abstract:Through incorporation of wireless sensor networks (WSNs) into many domains like health care, smart city and various industrial applications, it has become a broad area of research to many experts and scholars worldwide. This paper mainly concentrates on efficient development of agriculture by various modern procedures followed by farmers especially in southern part of India. This includes combination of various climatic parameters like temperature, light, rain and other environmental factors. The existing applications lack location specific data based on their system structure and other key technologies. Therefore there is a need for a systematic architecture based on various locations as environment differs from location to location. This paper presents an adaptive approach for crop management and an easy way to monitor systems which helps the farmer to get a better crop yield. The advantages and challenges of the existing systems are discussed here and various novel and innovative ideas are discussed along with future scope.

Keyword: Wireless Sensor Networks (WSN), temperature, light, crop management, environment.

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Authors: **S. Mohanasundaram, S. J. Vijay, Ajay Vasanth. X, P. Ramkumar**

Paper Title: **Uncertainty Error Analysis on Micro Hardness of Al6061-B4C Surface Composites Produced by Friction Surfacing**

Abstract:Friction surfacing is a confined surface modification process of depositing a layer of a consumable tool (Mechtrode) over the base plate (Substrate). This solid-state surfacing opts for dissimilar material and erosion resistant coatings. It is also utilized for localized repairing of worn-out components. In the present study, the hardness of the coated material is compared with the substrate. In this experiment, the Al-B4C composite consumable rod is prepared with Aluminium 6061 alloy and 3, 6, 9, 12 and 15 weight % of B4C by stir casting and coated over the Aluminium 6061 alloy plate. The 25-run experiment is conducted for the combination of the

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rotational speed, traverse speed and axial load. The combined effect of process parameters and the increase in weight % of B4C results in the change in hardness. The hardness of the coating is enhanced by 65% than the substrate. The uncertainty analysis revealed that it has a good correlation with the hardness standard value and also it has an error of 5%. The ANOVA analysis concluded that the rotational speed and the weight percentage of the reinforcement improved the microhardness of the coating.

Keyword: Friction Surfacing, Error analysis, Al6061, B4C, Surface Composite, Hardness

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Authors: **J.T. Gondalia, A.H. Rokad**

Paper Title: **Multiply Divisor Cordial Labeling**

Abstract:A Graph G* having multiply divisor cordial labeling with node set V* is a bijective. t on V* to {1,2,…,V*} such that an edge ab is allocate the label 1 if 2 divides (t (a) · t (b)) and 0 otherwise, then the number of edges having label 0 and the number of edges having label 1 differ by maximum 1. A graph having multiply divisor cordial labeling is said to be multiply divisor cordial graph. In this paper, we prove that cycle, cycle having 1 chord, cycle having 2 chords, cycle having triangle, path, jellyfish, coconut tree, star and bistar graph are multiply divisor cordial graphs.

Keyword: Subtract divisor cordial, jellyfish, coconut tree.

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Authors: **Sophia Shalini G. B., Anwar Saleh, Dhananjayamurthy B.V**

Paper Title: **On the Seidel Energy of Certain Mesh Derived Networks**

Abstract:The energy of graph G is defined as the sum of the absolute values of eigenvalues of the adjacency matrix A(G). The manual calculation of energy of graphs consumes several man hours. In this paper, we use MATLAB to generate the Seidel matrix and hence calculate the Seidel energy of some mesh derived networks.

Keyword: Seidel matrix, Seidel energy, Grid, Cylinder, Torus, Extended grid. AMS classification. 05C15,05C50

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331.	**Authors:**	**Priyanka Chugh (Shivanka), Dinesh Rai, S. Indu**
	Paper Title:	**Route Deviation Algorithm with Location Ambiguity in Wireless Sensor Networks**

Abstract:Nowadays, the primary concern of geographic routing protocol lies in the fact of minimisation of energy dissipation during the transfer of each packet in a network. This paper proposes an energy-efficient real-time algorithm in sensor networks, i.e., Route deviation Algorithm. Route deviation algorithm combines the characteristics of both distance-based criteria and direction or angle based criteria. In this paper, we have shown a comparison amongst COMPASS algorithm, NFP, MER and Route deviation algorithm. The simulation model includes numerous parameters, namely, threshold energy, number of sensors, spread of the map, position of sensors and transmission time. The results obtained through the simulation model supports the fact that the Route deviation algorithm accomplishes the task of saving energy and adds to the life of the networks.

Keyword: Compass, NFP, MER, lifetime of network, wireless sensor network, Route deviation, transmission range.

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	Paper Title:	**Implementation of MOORA Method for Determining Prospective Smart Indonesia Program Funds Recipients**

Abstract:Presidential Instruction No. 7 of 2014 mandates PIP to the Ministry of Education and Culture to summarize Indonesia Smart Card (KIP) and spread PIP funds to students that cannot afford to pay education. However, Indonesia Corruption Watch (2018) explained that the data used for the Smart Indonesia Program (PIP) was still inaccurate because almost half of the poor people with a percentage of 42.9% were not registered as participants in the Smart Indonesia Program (PIP). According to ICW, this is due to the data used for the process of determining the candidates for the Smart Indonesia Program recipients of the funds are still inaccurate and harming others who supposed to get funds. One method that usually used as a decision-making technique in

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	the research is the Multi-Objective Optimization Ratio Analysis (MOORA) method which is a multi-criteria decision-making that has five main steps as a technique and it can be used to rank prospective PIP fund recipients based on the highest to the lowest preference values. The results of this study indicate that the first rank with the highest value was 0.0539 and the last rank with the lowest value was 0.0211 so it used to ease the stakeholders to determine the amount of KIP recipients based on the preference values. This method can be applied for stakeholders needed in compared to monotonous data processing using estimates. **Keyword:**Smart Indonesia Program, Indonesia Smart Card, Education, Multi-Objective Optimization Ratio Analysis, Criteria Weights, Preference values. **References:** 1. Aziz AR. Implementasi Instruksi Presiden (Inpres) No 07 Tahun 2014 tentang Kebijakan Kartu Indonesia Pintar (KIP) dalam Meningkatkan Mutu Pendidikan Masyarakat Miskin di Indonesia. Jurnal Pemerintahan dan Politik Global. Januari 2019; 4(2): 58-68 2. Indra, Nahdah P. Meningkatkan Mutu Pendidikan di Indonesia Melalui Supervisi Pendidikan. INA-Rxiv, 18 May 2019. 3. Pratiwi I. Pisa Effect On Curriculum In Indonesia. Jurnal Pendidikan dan Kebudayaan. 2019; 4(1):51-71. 4. Hayati N & Sari EY. Evaluasi Implementasi Program Indonesia Pintar Di Sma Negeri 1 Sembawa. Prosiding Seminar Nasional Pendidikan Program Pascasarjana Universitas Pgri Palembang. 2019. 468-480.Wait 5. Alinezhad A & Khalili J. New Methods and Applications in Multiple Attribute Decision Making (MADM). Islamic Azad University: Iran. Wait 6. Hanifatulqolbi D, dkk. Decision support system for considering the best teacher performance using MOORA method. 2018 International Conference of Computer and Informatics Engineering (IC2IE). 2018. 1-7. 7. Andani SR, dkk. Application of the MOORA Method for Decision Making in Receiver Foundation Scholarship in AMIK Tunas Bangsa. The International Conference on Computer Science and Applied Mathematic. 2019. 1-6. 8. Domínguez L.P., dkk. Application of the MOORA method for the evaluation of the industrial maintenance system. International Meeting on Applied Sciences and Engineering. 2018. 1-6. 9. Peraturan Direktur Jenderal Pendidikan Dasar dan Menengah tentang Petunjuk Pelaksanaan Program Indonesia Pintar pada Jenjang Pendidikan Dasar dan Menengah. 2018. 10. Karande. P & CHAKRABORTY. S. Application of multi-objective optimization on the basis of ratio analysis (MOORA) method for materials selection. Materials & Design. 2012: 37. 317-324. 11. Instruksi Presiden Republik Indonesia Nomor 7 Tahun 2014. 12. Chakraborty, S. (2011). Applications of the MOORA method for decision making in manufacturing environment. The International Journal of Advanced Manufacturing Technology, 54(9-12), 1155-1166. 13. Brauers, W. K., & Zavadskas, E. K. (2009). Robustness of the multi-objective MOORA method with a test for the facilities sector. Technological and economic development of economy, 15(2), 352-375. 14. Wulansari, D. J., Murtiyasa, B., & Kom, M. (2017). Sistem Pendukung Keputusan Untuk Menentukan Penerima Kartu Indonesia Pintar Menggunakan Metode Simple Additive Weighting (Doctoral dissertation, Universitas Muhammadiyah Surakarta). 15. Mirani, D., & Agustina, S. (2018, March). Analysis Of The Implementation Of Smart Indonesia Program Through Indonesia Smart Card In Palembang City 2016. In 2018 Annual Conference of Asian Association for Public Administration:" Reinventing Public Administration in a Globalized World: A Non-Western Perspective"(AAPA 2018). Atlantis Press. 16. Rezaei, J. (2016). Best-worst multi-criteria decision-making method: Some properties and a linear model. Omega, 64, 126-130.	

333.	**Authors:**	**Anil Mehta, Deepankar Chakrabarti, Rajeev Srivastava, Ranjeet Mehta**
	Paper Title:	**Factors Influencing Behavioural Intention to Use Mobile Banking in Champawat District of Uttrakhand**
	Abstract:India has more mobile connections compared to banking accounts, therefore GoI in Economic Survey 2014-15, proposed JAM (Jan-Dhan Yojana, Aadhar Number and Mobile Number) trinity to use ICT for more efficient and effective spread of formal banking even to the hilly areas where brick and mortar banks are challenging to build and sustain. Also, financial inclusion cannot happen without economic activity, and Mahatma Gandhi National Rural Employment Act (MGNREGA) is a policy which significantly helped to enhance the economic activity of rural India. Because of penetration of mobile technology and involvement of the same in financial inclusion, this research will contribute to understanding the constructs of mobile banking adoption in hilly rural area of Champawat District, Uttrakhand w.r.t population registered with MGNREGA. The authors found research is scarce for mobile banking adoption in hilly rural areas of India. (Mehta et, al 2019) may be the only study for Champawat district of Uttrakhand, using technology acceptance model (TAM) and total interpretive structural modelling (TISM) to develop a model. This paper takes model from Mehta et al. 2019 and examines the relationship between the constructs using structured equation modelling (SEM). **Keyword:**Financial Inclusion, Mobile Banking, Technology Acceptance Model (TAM), Intention Behavior, Hilly Rural India, Total Interpretive Structural Modeling (TISM), Structured Equation Modeling(SEM) **References:** 1. Alalwan, et al. (2017). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust. International Journal of Information Management. 2. Hair, et al. (2006). Multivariate data analysis (Vol. 6). Upper Saddle River, NJ: Pearson Prentice Hall. 3. Kline, R. B. (2005). Principles and practice of structural equation modeling (2nd ed.). New York: Guilford. 4. Koenig-Lewis, et al. (2010), Predicting young consumers' take up mobile banking services, International Journal of Bank Marketing. 5. Koksal, (2016). The intentions of Lebanese consumers to adopt mobile banking. International Journal of Bank Marketing. 6. Mehta et al. (2019). Mobile Banking – An Answer to Financial Inclusion in Hilly Rural India, International Journal of Recent Technology and Engineering (IJRTE), Vol 8, Issue 4, November 2019, DOI:10.35940/ijrte.C5822.118419	**1926-1932**

334.	**Authors:**	**Shrikant Vastrakar, Sharda Pratap Shrivas, Amit Kumar Vishwakarma, Sanjay Kumar Vaidya, Ashish Kumar Khandelwal**
	Paper Title:	**Optimization of Process Parameters of EDM of Inconel 617 by Taguchi Based PCA and GRA Technique and Effect of Recast Layer Formation**

Abstract:Inconel materials are manufactured in various series which have differences in their chemical composition and hence in its physical and chemical properties. These alloy materials are known for their high strength, corrosion resistance and oxidation resistance. They are not easily machine-able through conventional machining, due to rapid work hardening tendency, high toughness and hardness, tendency to form built up edges, hence for their machining, non conventional machining equipments like EDM are used. A number of experiments has been performed to optimize process parameters of EDM on different series of Inconel material like Inconel 625, Inconel 718, Inconel 601, Inconel hastelloy C-276, Inconel 690 etc. by different optimization technique Taguchi, PCA, GRA etc however there is a lack of data available for optimization of process parameters of EDM machining for Inconel 617. So in this paper optimization of process parameters like Pulse on time, peak current, gap voltage have been done by taking Material Removal Rate and Tool Wear Rate as response variables. Other process parameters have been kept constant during EDM process. It is found that for different values of process parameters pattern of variation of MRR and TWR is different. Also the effect of recast layer formation on MRR and TWR has been analyzed and it is found that at high Peak Current and high Pulse on Time, tendency of formation of recast layer is high. Formation of recast layer adversely affects MRR and TWR i.e. it reduces MRR and TWR. Also Results obtained from PCA and GRA has been compared and it is found that both methods give same optimum set of process parameters but they have differences in pattern of variation of MRR and TWR.

Keyword: Electric Discharge Machining, Inconel 617, Material Removal Rate, Tool Wear rate, Pulse on time, Peak current, Gap Voltage , GRA(Gray Relation Analysis), Taguchi design, PCA(Principle Component Analysis), Recast Layer Formation.

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Authors: **Bhavya M, Thriveni J, Venugopal K R**

Paper Title: **DDEAS: Distributed Deduplication System with Efficient Access in Cloud Data Storage**

Abstract:Cloud storage service is one of the vital function of cloud computing that helps cloud users to outsource a massive volume of data without upgrading their devices. However, cloud data storage offered by Cloud Service Providers (CSPs) faces data redundancy problems. The data de-duplication technique aims to eliminate redundant data segments and keeps a single instance of the data set, even if similar data set is owned by any number of users. Since data blocks are distributed among the multiple individual servers, the user needs to download each block of the file before reconstructing the file, which reduces the system efficiency. We propose a server level data recover module in the cloud storage system to improve file access efficiency and reduce network bandwidth utilization time. In the proposed method, erasure coding is used to store blocks in distributed cloud storage and The MD5 (Message Digest 5) is used for data integrity. Executing recover algorithm helps user to directly fetch the file without downloading each block from the cloud servers. The proposed scheme improves the time efficiency of the system and quick access ability to the stored data. Thus consumes less network bandwidth and reduces user processing overhead while data file is downloading.

Keyword: Access Efficiency, Cloud Data storage, Data Deduplication, Network Bandwidth, Recovery module.

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Authors: **M.V.N. Srujan Manohar, Y. Seetha Rama Rao, Ch. Sree Ram**

Paper Title: **Optimization of Machining Parameters for AISI 316L And 317L Austenitic Stainless Steels using Eco-Cut Wire-EDM Technique**

Abstract:Austentic stainless steel is one of the most suitable engineering material based on their superior resistance to corrosion and compatibility at high temperatures and high vacuum. However, the machinability of austenitic stainless steel is not very promising owing to lower thermal conductivity, higher degree of ductility and work hardenability. For meeting these challenges, unconventional machining procedures were evolved and can make any impenetrable design/profile on any work substance by acceptable controlling of various machining procedures. The main importance of this paper is to show the impact of machining parameters on Eco-cut Wire Electric Discharge Machining (WEDM) for disparate austenitic stainless steels (AISI 316L & 317L). Initially both the metals are machined on WEDM. Machining parameters like pulse on time(Pon), pulse off time(Poff), voltage(V) and wire tension(WT) are observed for both 316L and 317L stainless steel materials. A Box-Behnken Design (BBD) of response surface methodology (RSM) has been used for experimental work. The reaction of procedure is estimated by ANOVA analysis and response optimizer is used for optimum level checking. A series of trial runs were carried out on both the machined specimens for identifying better material removal rate(MRR), cutting speed(CS) and surface roughness(Ra).

Keyword: Cutting Speed(CS), Material Removal Rate(MRR), Surface Roughness(Ra), pulse on time(Pon), pulse off time(Poff), voltage(V), wire tension(WT), Response Surface Methodology(RSM) and ANOVA.

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Authors: **Shabbir Hassan, M. U. Bokhari**

Paper Title: **Design of Pseudo Random Number Generator using Linear Feedback Shift Register**

Abstract:Nowadays security has become a great concern in the field of computer science and information technology. In order to protect data from unintended users and to achieve a desirable level of security, several cryptographic algorithms based on various technology have been proposed. Linear Feedback Shift Register (LFSR) may play an important role in the design of such cryptographic algorithms. LFSR based cryptographic algorithms are often lightweight in nature and are more suitable for resource constraining devices. In this paper we present a detailed analysis of LFSR and design of m-sequence LFSR to implement cryptographic algorithms.

Keyword:Q Array PRNG, FSR, Modular Arithmetic, Galois Field GF(p^m), Primitive Polynomial p(x), Primitive Polynomial p(x) over GF(p^m), LFSR, m-sequence, Run Length, Linear Recurrence, NIST.

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338.	**Authors:**	**Gaurav Charavande, Savita Maru**
	Paper Title:	**Earthquake Analysis, of RC Structure using Different Codes and Different Countries**

Abstract:This paper presents a seismic behavior of various structures using different codal provision as given Indian code, American code, &Newzealand code for earthquake analysis. This study is carried out on residential building of G+5, G+11, G+21 of Special RC structure . Modeling of the structure is done as per ETAB software. Time period of the structure in both the direction is taken from the software as per the three standard (9 model are made 3 model for each code). A comparative analysis is performed in terms of base shear, deflection limit, stores drift at linearly static and response spectrum.

Keyword: Base Shear, Displacement, Seismic Analysis , Storey Drift

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Authors: **Ravi C Bhaddurgatte, Vijaya Kumar B P, Kusuma S M**

Paper Title: **A Cross layer QoS Framework for Heterogeneous IoT environment**

Abstract:Internet of Things (IoT) is one of the fast growing technological paradigm in terms of architecture, standards, protocols, infrastructure deployment, Quality of Service (QoS), Service Level Agreements (SLAs), service provisioning, cross domain and cross platform implementations. IoT involves the techniques and technologies for sensing, actuation, communication, computation, networking and storage. In such a demanding environment the need for cross layer QoS functionalities are essential to address the issues like resources, mobility, security and energy management. The detailed review of literatures on IoT architectures and QoS implementations is made and it is observed that there is a need for cross layer QoS model in IoT environments and is one of the critical research challenges. A novel approach to address the above challenge(s) in an IoT environment requires an appropriate lathering of functional modules to different layers to meet different QoS requirements. Hence we propose a novel cross layer QoS framework supporting adaptable and distributed decision making in the IoT environment as a cross layer implementation addressing energy optimization and bandwidth efficiency. The results are verified by implementing the proposed framework in realistic IoT systems for verifying QoS parameters like delay, energy and bandwidth.

Keyword: Internet of Things [IoT], Quality of Service [QoS], Service Oriented Architecture [SOA], Heterogeneous network [hetnet], Service Level Agreement [SLA]

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Authors: **Baryanto, Syaiful Bahri, Irwan Fathurrochman, Alamsyahril**

Paper Title: **Islamic Habituation in Growing Students’ Social Behavior**

Abstract:This qualitative research aimed at revealing the habituation of Islamic values in MAN Rejang Lebong. This research used observation, interview, and documentation as instruments. The results showed that the school

actualizes reciting the Qur'an before class begins, reciting prayer, reciting salawat, reading asmaul husna, praying duha and zuhur in congregation, applying the five S (senyum, salam, sapa, sopan, santun), Friday prayers, Friday safaris, Friday morning cults, Friday charities and clean Friday and the implementation of religious activities routinely carried out by school principals using strategies in familiarizing religious activities, religious routine activities continuously. So it can cultivate religious social behavior such as the honest discipline of provident living helps be flexible in association and. As for the obstacles to performing the routine of religious activity, there is still a lack of motivation in students, so a small proportion of students are still less active or frequently latent when engaging in activities.

Keyword: Islamic Values, Principals Management, State Islamic High School Students

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Authors: **R. Kunjana Rahardi, Yuliana Setyaningsih, Rishe Purnama Dewi**

Paper Title: **Iconic Meanings of Traditional Herbs and Shrubs: Culture-Specific Based Envirolinguistic Perspective**

Abstract:Traditional herbs and shrubs, which are ubiquitous all over the world, have been used in various cultures for many purposes, such as for medicinal and ornamental purposes. These herbs and shrubs have different names depending on the cultures where the plants grow. This envirolinguistic research which aims to conserve the names of the traditional herbs based on local culture in the perspective of linguistic and environment is a descriptive qualitative linguistic research. The tangible data of this envirolinguistic research is the list of names of the traditional herbs and plants obtained from many data resources. The location of the data sources is the places identified as the center of the agriculture of the traditional herbs in Yogyakarta Special Region and surrounding areas. Besides, in this digital era, the names of the traditional herbs can be obtained from the Internet websites. These two locational resources make the research adequately feasible to be analyzed. The linguistic data, which is the end-product of this research, are gathered or obtained by the use of observation method. The technique used to gather data also includes transcribing or recording techniques. Data can also be obtained by giving cues during the interview. This technique is sometimes accompanied by recording or transcribing, both directly and indirectly, open or secretly. The data analysis in the envirolinguistic research on the names of traditional herbs is conducted by applying the equivalent method and distributional method as commonly practiced in the linguistic research. The iconic meanings of herbs and shrubs resulted from the analysis were then presented.

Keyword:iconic meanings, traditional herbs and shrubs, ecolinguistic perspective

1986-1992

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342.

Authors: **Devendra Kumar, Upasana Sharma**

Paper Title: **Design E-Wallet as a Centralized E-wallet**

Abstract:Now days, billions of people are using smart phones all over the world and as the phone gets smarter, the new features gets added that reduces the human efforts in many fields. Smart phone makes the payment of different things such as ordering food, booking a cab, ordering grocery, booking a movie ticket via different mobile applications. These mobile applications work with the support of e-wallets which is recognized as digital wallets. This paper proposes the design of connecting different e-wallets present into a single smart phone. The proposed method will make digital payment much less cumbersome.

Keyword:UPI, E-Wallet, E-commerce,

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343.	**Authors:**	**Pratik Mulchandani, Muhammad Umair Siddiqui, Pratik Kanani**
	Paper Title:	**Real-Time Mosquito Species Identification using Deep Learning Techniques**

Abstract:According to the World Health Organization, diseases such as malaria and dengue account for almost one million deaths every year. Carrier mosquitoes for a particular disease remain exclusive to it. A majority of carrier mosquitoes spread the disease throughout a region by reproducing in it. With advancements in Machine Learning and Computer Vision technologies, the species of mosquitoes in a particular region can be easily and swiftly detected using recordings of their wing movements. The wingbeats of a particular mosquito species are unique, making this a reliable method to identify them. Once these solutions are deployed on mosquito traps, a particular region can be alerted if, for example, an Aedes Aegypti mosquito is found. This mosquito species is widely known to carry the Zika virus. The identification of such carrier species can also help in detecting the spread of mosquito-borne diseases in the surveyed region. In this paper, we go through various techniques that show promising results in the identification of mosquito species. The trained models can be deployed on constrained devices to make a cost-effective and efficient mosquito species identification system.

Keyword:carrier mosquitoes, constrained devices, machine learning, mosquito detection, deep learning

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344.	**Authors:**	**Chittampalli Sai Prakash, J Sirisha Devi**
	Paper Title:	**Nexus DNN for Speech and Speaker Recognition**

Abstract:Over the years, many efforts have been made on improving recognition accuracies on Automatic speech recognition (ASR) and speaker recognition (SRE), and many different technologies have been developed. Given the close relationship between these two tasks, researchers have proposed different ways to introduce techniques developed for these tasks to each other. In this paper an open source experimental framework is proposed for speech and speaker recognition. Then a unified model, Nexus-DNN is developed that is trained jointly for speech and speaker recognition. Experimental results show that the combined model can effectively perform ASR and SRE tasks.

Keyword: Automatic speech recognition, speaker recognition, Nexus-DNN, Word Error Rate, shared hidden layers

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Authors: **Wawan Trisnadi Putra, Kuntang Winangun, Ahmad Yani, Mohamad Afendee Mohamed**

Paper Title: **The Bending Strength and Hardness of Recycle Plastic Type HDPE (High Density Polyethylene) and PP (Polypropylene)**

Abstract:The purpose of this research is to know the strength, flexibility and maximum hardness of plastic waste after pressing of HDPE, PET/PETE and PP type with bending test. Furthermore, the specimen is made referring to ASTM 6272 D and the testing is carried out with the specified measurement. The results show that the strongest recycled plastic with the highest bending level is obtained from the composition of 50% HDPE, 20% PET/PETE and 30% PP, with maximum power of 52.9 N/mm2 and 137.74 Kg/mm2. In addition, the biggest flexibility strength is plastic with composition 50% HDPE, 20% PET/PETE and 30% PP with strength value of 9.53 N/mm2. As for hardness value, it reaches 12.76 Kg/mm2. Because the plastic in used is recycled Plastic, the resulting product cannot be used for food and beverage container. However, it can be used for flower pot and pencil case.

Keyword: Bending test, flexibility, hardness, plastic waste HDPE, PET and PP

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Authors: **Menta Mohit, Neralla Harichandana, Pendem Bhagyasri, P. M. Ashok Kumar**

Paper Title: **Expression Invariant Features for Face Recognition**

Abstract:Personal Computer sourced Face Recognition has been a sophisticated and well-found technique which is being rationally utilized for most of the authenticated cases. In reality, there is a number of situations where the expressions of the face will be different. We are here able to instinctively detect the five universal expressions: smile, sadness, anger, surprise, neutral by studying face geometry by determining which type of facial expression has been carried out. Using some facial data with variant expressions. We hereby made some experimentations to calculate the accuracies of some machine learning methods by making some changes in the face images such as a change in expressions, which at last needed for training and recognition identifiers. Our objective is to take the features of neutral facial expressions and add them with the other expressive face images like smiling, angry, sadness to improve the accuracy.

Keyword: Face recognition, CNN, facial expressions.

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Authors: **J. Sridhar, D. Vivek, D. Jegatheeswaran**

Paper Title: **Mechanical and Flexural Behavior of High Performance Concrete Containing Nano Silica**

Abstract:This research work presents the role of nano silica (NS) on properties of high performance concrete. This study evaluates the influence of nano silica in three percentages (1%, 2%, 3 %,) by weight of cement. Several tests including mechanical properties and flexural test were performed to understand the influence of nano silica on behavior of concrete. It was determined that Portland cement replaced with 3% by weight with nano silica could accelerate C-S-H gel structure at early stage of hydration. In return this increases water permeability resistance of concrete specimens and acts as filler material that enhances micro structure as well as activator to promote pozzolanic activity and this will pave the way for producing good quality concrete.

Keyword: Nano silica, concrete, Flexural strength, Compressive strength

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Authors: **Dyah Aruming Tyas, Sri Hartati, Agus Harjoko, Tri Ratnaningsih**

Paper Title: **Erythrocyte Classification using Multi-Layer Perceptron, Naïve Bayes Classifier, RBF Network and SVM**

Abstract:Several diseases can be diagnosed based on the appearance of abnormal erythrocytes, among others anaemia and thalassemia. Process of examination peripheral blood smear manually is time-consuming and subjective. Currently, the process of examination peripheral blood smear by laboratory assistants can be assisted with digital image processing technology so that it can speed up the examination time and avoid subjectivity. This research begins with the process of microscopic image acquisition, then preprocessing, segmentation, feature extraction and classification. The microscopic image acquisition is carried out using an additional special camera on a microscope. In this study, we used peripheral blood smear of thalassemia patients and healthy individuals. We convert the RGB image to grayscale image and perform the median filtering in the preprocessing stage. In the segmentation stage, we used the watershed distance transform method. As a segmentation result, we got 7108 erythrocyte images consisting of nine types of erythrocytes. In feature extraction, we used shape, color and texture characteristics to represent erythrocytes. The combination of these three features is used as classifier’s input. One crucial stage in digital image processing technology is object classification. In this study, erythrocyte classification is done by comparing four types of the classifier to determine the best classifier performance in this case. Multi-Layer Perceptron (MLP), Naïve Bayes classifier, RBF Network, and SVM used as classifiers in this study. Experimental results showed that MLP got the highest performance with 89.6% accuracy, 89.3% precision and 89.6% recall. Furthermore SVM came in second place, followed by RBF Network and Naïve Bayes classifier.

Keyword: Classification, erythrocyte, MLP, Naïve Bayes classifier, RBF Network, SVM.

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Authors: **Hashim V, Resmi S L, Dileep P N, Jesna Mohammed, Rajeev A**

Paper Title: **Impact of Geometry Effects on Artery Stent Deployment Characteristics**

Abstract: Intravascular stenting is the leading treatment procedure for atherosclerotic coronary heart diseases. Among the various procedures, it is simpler and faster with a high initial success rate. Stent design, stent material, and clinical procedure decide the efficacy and life of stents. Strut thickness and crown radius are two essential design parameters that dictate expansion characteristics of stents. This research work discusses computational analysis of a specific stent, to explore the influence of thickness of strut on the deployment characteristics like stress/strain, foreshortening, recoil, and dog boning. The optimum stent design is one which gives maximum expansion with minimum stress distribution, dogboning, and elastic recoil. Five similar stent models with thickness ranges from 65µ to 105µ were modeled and computational method was adopted to simulate the transitory expansion nature of stent/balloon system. The FE results were substantiated with an in-vitro experiment. It was found that strut thickness has a major impact on stent recoil and low impact on foreshortening and dogboning. Foreshortening per unit expansion was almost same for entire models. Strut thickness 70µ to 80µ gives better expansion characteristics for the model under study.

Keyword: Coronary stent, Expansion characteristics, Finite Element Analysis (FEA), Stress/strain, Strut geometry.

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Authors: **N. N. Nikulina, I. V. Gordienko, I. A. Belozerova, N. I. Lyubimova, M. G. Davityan**

Paper Title: **Problems of Social Adaptation of Bachelor's Degree Students of Pedagogical Field under the Conditions of examine in Agrarian University**

Abstract:Problem and objective. Nowadays, in the practice of training of professional educational organizations

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there is a discrepancy between the methods of training acceptable at the basic school and the university, which complicates the process of adaptation of students to the new conditions. The social status of a "student", a large amount of information, lack of skills of independent work, reduced control over educational activities by both parents and teachers, requires the student to mobilize available resources and opportunities for successful adaptation in the university. At this stage of personal development, various forms of disadaptation behavior may appear

Training of students of pedagogical orientation in the walls of a non-core university is associated with additional problems, which, above all, consist in the emerging contradictions between the humanitarian and non-humanitarian orientation of the learning process.

The purpose of the research presented in the paper is to analyze the process of adaptation of bachelor students of pedagogical field to the conditions of training in an agrarian university and to determine the main directions of its improvement.

Proposed Methodology. Methodological grounds for the study of the problem of social adaptation of bachelor students of pedagogical field in a non-core university were: analysis; comparison; typologization of theoretical sources; diagnostic methods that allowed to carry out theoretical and methodological substantiation of the essence and specificity of adaptation of students to training in a non-core university.

The sociological toolkit of the questionnaire survey included the test methodology of K. Rogers and R. Diamond, formulas of Rylon, Spearman-Brown, Cronbach. For processing the answers of respondents (n = 210) the methods of mathematical statistics - correlation and cluster types of analysis - were used.

Results. The authors have revealed general and specific features of the adaptation process of students of pedagogical field in the conditions of training of non-core higher education institution; comparative analysis of social-psychological and social-professional adaptation of students has been carried out; the most acute problems and difficulties of social-professional adaptation have been revealed; criteria and levels of adaptation of students of pedagogical orientation have been formed; proposals on improvement of the process of adaptation of students of pedagogical orientation have been developed and applied in practice.

Conclusion. The conducted research allowed to get a comprehensive idea about the organization of the adaptation process of future teachers to the conditions of training in a non-core higher education institution. The materials of the study can be used in the management of the adaptation process in higher education, including the educational and leisure activities of curators of student groups, teachers, psychologists and educators in dormitories.

Keyword:social environment, adaptation, disadaptation, educational process, educational activity, adaptation factors, adaptation criteria, monitoring of the adaptation process.

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Authors: **Parashu Ram Pal, Pankaj Pathak, Vikash Yadav, Priyanka Ora**

Paper Title: **Classification of Pruning Methodologies for Model Development using Data Mining Techniques**

Abstract:Knowledge discovery process deals with two essential data mining techniques, association and classification. Classification produces a set of large number of associative classification rules for a given observation. Pruning removes unnecessary class association rules without losing classification accuracy. These processes are very significant but at the same time very challenging. The experimental results and limitations of existing class association rules mining techniques have shown that there is a requirement to consider more pruning parameters so that the size of classifier can be further optimized. Here through this paper we are presenting a survey various strategies for class association rule pruning and study their effects that enables us to extract efficient compact and high confidence class association rule set and we have also proposed a pruning methodology..

Keyword:associative classification, data mining, knowledge discovery process, pruning.

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Authors: **Kanakavalli Prakash Babu, Vommi Vijaya Babu, Medikondu Nageswara Rao**

Paper Title: **Scheduling of Machines and AGVs Simultaneously in FMS through Hybrid Teaching Learning Based Optimization Algorithm**

Abstract:The most complex problem in FMS is scheduling task, due to this complexity it has created interest among many researchers. Even though FMS scheduling problem was considered earlier, material handling systems like (AGVs) scheduling was not done effectively. As transportation times cannot be neglected in an FMS, a carefully managed and designed material handling system is important in achieving the required integration in flexible manufacturing environment. Hence there is a need for scheduling both the machines and material handling system simultaneously for the successful implementation of an FMS, which makes the scheduling of FMS more complex. Metaheuristic Algorithms are mostly received by the researchers, because of their capability to tackle more complex problems. Hybridization of the metaheuristics may further improve their performance. In the present work a new hybrid metaheuristic Teaching Learning based optimization(HTLBO) is proposed to solve simultaneous scheduling problems.

Keyword:AGVs, FMS, Operational Completion Time (makespan), Metaheuristic algorithms, , NP-hard

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problems

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Authors: **Ramakanta Jena, Sarat Chandra Swain, Ritesh Dash**

Paper Title: **IGSA-FA for Optimal Placement of FACTS Devices**

Abstract:With the globalization of power market by reducing the installation and operating cost of the power plant with profitable power flow controller leads to successful implementation of optimal power flow through optimal algorithms. Finding the solution of optimal load flow problem with non-linear equation such as Newton's equation is one of the possible solution. However, applying Newton's solution to OPF for finding convergence is a little bit tedious and time consuming affecting marginal losses by involving a number of inequalities present in the system. Transmission lines capacity and bus voltage limit are vital safety factors to carry out OPF in any power system The system being operational in normal state is equipped with security measures in order to discern that it is capable of resisting contingencies devoid of any limit contravention . To ensure a consistent power system function, it is essential that the safety of the system is duly accounted for in

Keyword: About four key words or phrases in alphabetical order, separated by commas.

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Authors: **K. Satyanarayana, K. Sudhakar, G. Bhavanarayana**

Paper Title: **Performance Improvement of Sensorless Vector Controlled Induction Motor Drive for Medium Power Applications**

Abstract:This paper deals with sensorless vector controlled induction motor in which torque pulsations are reduced with improved input of induction motor. In proposed technique two multi winding transformers are used for generation of 18 sinusoidal signals given to rectifier unit and the rectifier output given as input to 9 level multi level inverter. In this proposed technique gating signals to the inverter switches will be provided through space vector pulse width modulation which considers speed as reference. This configuration was simulated in MATLAB/Simulink.and the simulation results are presented here with improvement in reduction of THD.

Keyword: Multi Winding Transformer, Multi-Level Inverter, Power Quality, Modulation Techniques,

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VCIMD.Space vector pulse width modulation

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Authors: **D. Parameswari, V.Khanaa**

Paper Title: **Intrusion Detection System from External Threats using Data Mining**

Abstract:Network Intrusion Detection is a significant apparatus to distinguish and examine security dangers to a correspondence arrange. It supplements other system security procedures, for example, firewalls, by giving data about the recurrence and nature of assaults. A system interruption discovery framework (NIDS) frequently comprises of a sensor that examines each bundle on the system under perception, and advances the parcels which are considered fascinating, together with an alarm message to a backend framework, that stores them for further examination and relationship with different occasions. The assessment procedure of the MAC address contrasted with the CADL is improved and streamlined with the help of the J48 choice tree calculation. The pursuit procedure is completed in the created arrangement esteem through tree based characterization.

Keyword:MAC,CADL,CART

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Authors: **Padmavathi K, Maya V Karki**

Paper Title: **An Efficient PET-MRI Medical Image Fusion based on IHS-NSCT-PCA Integrated Method**

Abstract:Merging of multiple imaging modalities leads to a single image that acquire high information content. These find useful applications in disease diagnosis and treatment planning. IHS-PCA method is a spatial domain approach for fusion that offersfinestvisibility but demands vast memory and it lacks steering information. We propose an integrated approach that incorporates NSCT combined with PCA utilizing IHS space and histogram matching. The fusion algorithm is applied on MRI with PET image and improved functional property was obtained. The IHS transform is a sharpening technique that converts multispectral image from RGB channels to Intensity Hue and Saturation independent values. Histogram matching is performed with intensity values of the two input images. Pathological details in images can be emphasized in multi-scale and multi-directions by using PCA withNSCT. Fusion rule applied is weighted averaging andprincipal components are used for dimensionality reduction. Inverse NSCT and Inverse IHS are performed so as to obtain the fused image in new RGB space. Visual and subjective investigation is compared with existing methods which demonstrate that our proposed technique gives high structural data content with high spatial and spectral resolution compared withearlier methods.

Keyword:NSCT,fusion, Histogram, IHS, PCA.

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Authors: **G. Anitha, S. Rakesh, R. Arunachalam, R. Sudharsanam, P. Muthu**

Paper Title: **Non-Invasive Method to Diagnose Lung Energy of the Smoking Population**

Abstract:Smoking is an activity where toxic content which on fire produces smoke which can be detrimental if inhaled and mixed into the blood flow. Smoking is one of the key factors for death globally. On an average masculine and feminine smoker suffer about 13.2 and 14.5 year lifetime variation when compared to non-smoking individual. Most of the individuals who smoke regularly has higher prevalence of stroke, eye cataracts and cancer of nose, lips, tongue and mouth. The fact that 22.1% of masculine smoker and 11.9% of feminine smoker has a huge risk of dying due to lung cancer before age 80. The smoking generally has a adverse effect in its later stage and the diagnosis is generally invasive. There is a need for an early and non invasive diagnosis method for finding the adverse effects of smoking. Biowell is one such non invasive device to find psycho emotional status, Energy distribution and functional status of different organ. By using GDV based energy detection and health status analysis we can differentiate the damage caused to the brain and other major parts like Lungs, Nerve and Thoracic region. Smoking populations along with non smokers are taken and energy distribution and health status are collected, analyzed to prove the efficiency of Biowell instrument as a standard diagnostic tool.

Keyword: Smoking, Stroke, cancer, cigarettes, Energy distribution.

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2080-2083

Authors: **Divyasre. V. S, Ramya .J**

Paper Title: **Impact of Relationship Marketing Variables on Brand Resonance: Mediating Role of Brand Attitude**

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Abstract:Relationship Marketing has got its values strongly rooted in business and market place right from the year 1983. It is the core sphere of operation for all kinds of trade and no organization overlooks this concept. Holding this importance of Relationship Marketing as a core idea, the study aims at discerning the impact of Relationship Marketing Variables on Brand Resonance. Brand Resonance is yet another dominant state of psychological connect which every company would like to establish with the customers. The Relationship Marketing Variables Trust, conflict handling, empathy and Satisfaction are considered for the analysis. Brand Loyalty, Brand Community, Brand Engagement and Brand Attachment are the variables of Brand Resonance. Focusing on the relationship marketing variables that contributes towards high brand resonance would enable companies to contemplate on these profit enabling areas that eventually leads to a sustenance growth for the organization. Indian Shopping Websites has been given the prime importance in this study and data has been collected from 515 users of these websites. Multiple regression is employed as a main tool to examine the influential effect and for mediation analysis. The mediating effects of brand attitude over brand resonance is also

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examined in this study. Drifting from the traditional view of customer satisfaction influencing Brand Loyalty, this study has found Empathy as the most influential factor on Brand Resonance followed by Conflict handling and Trust. Brand Attitude strongly mediates the relationship between relationship marketing dimensions and Brand Resonance.

Keyword: Relationship Marketing, Brand Attitude, Brand Resonance

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359.	**Authors:**	**Rinkuben N Patel, Nirav V. Bhatt**

	Paper Title:	**Energy Efficient Quality Assurance MAC Protocols in WSN**	
	Abstract:The key aim of the proposed research is to perform an analysis of various QoS aware MAC protocols for WSN based on simulation and literature both. The proposed work represents the designs and methodologies of different MAC protocols. And also classify the various MAC protocols based on media access and allocation of schedule for communication among the sensor nodes. The proposed work performs the analysis by designing, developing and analyzing various quality aware MAC protocols for Wireless sensor network. This paper describes the detailed analysis of different channel access methods of a network. It also depicts detail algorithms of SMAC and describes the procedure of data communication in TMAC, BMAC, and ZMAC. Also, simulate the SMAC and TMAC protocols to analyze energy efficiency as a QoS parameter. The simulation of SMAC and TMAC data transmission is done in network simulator 3 by using various network parameters. In this research the QoS parameters like Energy, Throughput, delay and, latency are analyzed by simulation and literature respectively. A new research always starts with analysis of existing one. So, Analysis of different MAC is useful for the WSN research community to propose and develop a QoS aware MAC protocol. **Keyword:**Analysis, Delay, Energy, MAC, QoS, Throughput, WSN **References:** 1. A.WooandD.Culler. A Transmission Control Scheme for Media Access in sensor networks. In ACM MobiCom, 2001 2. Ajith Kumar S., Knut Øvsthus, Lars M. Kristensen - An Industrial Perspective on Wireless Sensor Networks - A Survey of Requirements, Protocols and Challenges, IEEE communication survey and Tutorials, 2014;16(3):1391-1412. 3. Ali Chodari Khosrowshahi, Bahman Arasteh, Saeid Taghavi Afshord, and Behnam Arasteh, A New Strategy for Optimizing Energy and Delay in MCSMAC Protocol, Indian Journal of Science and Technology,2014 Nov;7(11):1-9 4. Dhanashri N. Wategaonkar and R. 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360.	**Authors:**	**Mesele Kebede Manaye, B. C. M. Patnaik, Ipseeta Satpathy**	
	Paper Title:	**The Effect of Electronic Taxing System in Creating Taxpayers Insight about the Equity and Justice of Tax System**	
	Abstract:is well known, nowadays the government of any state has to collect sufficient revenue as much as possible in order finance its operation. But in reality, government of any state has facing difficulty in collecting revenue from its citizen due to various ins and outs. Among the most important reasons one is lack of tax fairness and justice. The primary objective of this study was to examine the effect of electronic taxation system in creating an insight about the fairness of tax administration system in Wolaita Sodo town. The cross sectional survey method was adopted and self administered survey and in-depth interview has been used to collect the	**2098-2104**

data. The data has been collected from 192 individual business profit tax payers from category “B” tax payers and 20 tax officers for interview through systematic random sampling techniques. The data has been analyzed by correlations and multiple regressions. The findings shows that fairness of taxation system is directly related with tax complexity, tax general knowledge, tax general fairness, exchange fairness, horizontal fairness, vertical fairness, redistributive fairness and administrative fairness and have significant effects on tax fairness in the current tax system but General fairness is insignificant at 5% level of CI.Finally, based on the findings possible recommendations were given. The tax authorities should provide sufficient tax training to improve the awareness of tax payer’s towards taxation system. More efforts would be exerted in providing tax information through various means at local and federal level about the rights and duties of tax payer’s to bring the growth in the economy of the country in general and well being of its citizens in particular. Thereby, enhancing fair tax collection and providing basis for further research in a broader scope.

Keyword: Tax Taxpayers’ insight, Fairness, Wolaita zone, Ethiopia

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361.	**Authors:**	**Mahendra K C, Sreenivasa C. G., Veerabhadrappa Algur, Virupaksha Gouda H**
	Paper Title:	**Process Optimization and Influence of Micro Structural Characterization by Friction Stir Welding of Various Materials**

Abstract:Various advanced joining techniques are available now days to suit the process challenges and to connect the specific application areas of industrial sector. Several experimental investigations on mechanical characteristics of different materials along with process parameters are successfully joined and evaluated. Friction stir welding (FSW) defines a solid state bonding operation, which uses a non-consumable tool to join the workpiece material. Friction stir welding technique can be applied to weld the similar and dissimilar materials including ferrous, nonferrous and polymers to develop sustainable byproduct. Industrial applications in the fields of automobiles, aerospace are expecting the techniques to join various combinations of materials for lightweight and improved performance from engineering designs that ensures the fulfillment of current challenging desires. As the research intensifies into wider aspects like obtaining suitable material combinations to attain the objective of reduced weight and also to satisfy applications aspects, friction stir welding gave perfect platform to exhibit newer material integration. Objective of this paper is to research and analyze the influence of critical parameters through FSW. In this direction, review based on process based methodology of different materials combinations like ferrous materials, non-ferrous materials and dissimilar material has been focused. Welding parameters influencing the FSW operations and their effect on mechanical properties in the respective categories of material pooling has been indicated. Tensile test, hardness inspection, macro and microstructural evaluations of subjected materials have been highlighted in this section. This suggest with further recommendations that FSW can also be applied effectively in case of polymeric materials in continuance of research domain.

Keyword: Dissimilar Materials, Friction Stir Welding, Microstructure, Tensile Strength,

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362.	**Authors:**	**I. Krishna Chaitanya, Balaji K.V.G.D, M. Pavan Kumar, B. Sudeepthi**
	Paper Title:	**Soil Structure Interaction Effects on R C Structures Subjected to Dynamic Loads**

Abstract:From the past studies, every engineering structure was designed to withstand all external and internal forces applicable to the structure. For this many design methods are implemented and different techniques are found manually, experimentally and practically. One of the parameters which influence the analysis results is, support condition of the structure. Assuming fixed or pinned support in regular analysis of structure considering soil interaction with foundation may not produce accurate results as support condition differ by type of soil ie., loose, medium or hard & their characteristics. So, there is need to study about structural interaction with soil and their outcome deeply. Now a day's soil structure interaction studies are playing major role in the analysis & design of structures. Many studies are carried out on structure interaction of soil considering seismic or lateral

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forces. This paper reviews the studies carried out on structural interaction with soil and its impacts on various reinforced concrete buildings subjected to dynamic loads.

Keyword: Structural interaction of soil, Seismic loads, foundations, Time history analyses, Impact loads

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Authors: **Payal Varangaonkar, S. V. Rode**

Paper Title: **Methods of Landslide Detection using GIS and Remote Sensing Images**

Abstract:The most challenging and damaging natural disaster is the landslides around the mountainous terrain especially in the western and northern regions of India. The landslides lead to several damages in terms of socio-economic impacts, thus it gains significant researcher's attention since from the last two decades to study and early prediction of landslides. The automatic and accurate landslide detection and localization become essential to suppress the socio-economic impacts with help using sensing remote images & Geographical Information System (GIS). Nowadays remote sensing images provide useful information combined with the GIS environment related to the spatial factors that are influencing the landslide occurrence. The fundamental prerequisite for the landslide prediction using GIS is landslide inventory. In India, the satellite images collected using remote sensors such as LANDSAT ETM+, ASTER, IRS P6, etc. to form the landslide information over the parameters like aspect, slope, drainage density, relative relief, etc. Thus using the remote sensing images, the monitoring of landslide introduced. The landslide prediction using the remote sensing images however suffered from the various challenges. This paper presents the systematic review of various landslide prediction and localization methods using the remote sensing images and GIS information regardless of the study areas. The comparative analysis and the current research challenges for designing the automated landslide detection framework discussed based on the literature review.

Keyword:GIS, landslide detection, landslide localization, remote sensing images, image processing.

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Authors: **Sk. Shama, Yashwanth Inuganti, M. B. Bhavana, A. Jagapathi**

Paper Title: **Productive and Security in Remote Sensor Network using SNR**

Abstract:Remote Sensor Networks is presently generally spread the nation over. This contraption faculties and screens the physical state of our condition and assembles every one of the information gathered at a focal area called sink. The contribution to this contraption is the physical conditions and changes over
it into electrical sign A collection of spatially distributed and dedicated sensors also known as wire less sensor network, the hubs in the system have a restricted transmission, less vitality and less space. So to improve this we use grouping methods to give an effective method to build the lifetime of a WSN hence we are utilizing Signal to Noise Ratio (SNR) based bunching instrument This plan proposes an Efficient and Secure Routing Protocol for Wireless Sensor Networks through SNR-based Unique Bunching (ESRPSDC) that can isolate the sensor hubs into a few meetings called as groups where one hub will be group head (CH) and non-cluster head (NCH) adherents. These supporters will detect and gather the information and the information will be sent to group head. The bunch head will at that point send the information to the sink. We need group heads on the grounds that the hubs can't straightforwardly send information to the sink in view of less vitality.

Keyword: Cluster Head, Wireless Sensor Networks, Noise Ratio signal

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365.	**Authors:**	**Asalah F Altwairqi, Mohammed A. AlZain, Ben Soh*, Mehedi Masud, Jehad Al-Amri**
	Paper Title:	**Four Most Famous Cyber Attacks for Financial Gains**

Abstract:Cyber attacks are on the rise every day and pose a major threat to the Internet users. Cyber attackers are constantly capable of gaining hidden exposure at the moment and keeping a low profile. There is a need to carry out analyses on cyber attacks for educational purposes. In this paper we analyze four types of most famous cyber-attacks for financial gains: phishing attack, salami slice attack, ransomware attack, and cryptojacking attack. General Terms: Cyber attacks

Keyword: Phishing, salami slicing, ransomware, cryptojacking.

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Authors: **Piyush Charan, Tahsin Usmani, Rajeev Paulus, Syed Hasan Saeed**

Paper Title: **Reliability and Energy Efficiency of DEAR Protocol with Cooperative Caching in IEEE802.15.4 based large ubiquitous Wireless Sensor Networks**

Abstract:Reliability and Energy Consumption issues in large ubiquitous Wireless Sensor Networks are a cause of concern especially because there is an inherent conflict between the two: an increase in reliability usually leads to an increase in energy consumption. Conversely, energy conservation has been a priority research concern in wireless sensor nodes. Data aggregation from various nodes and its transmission to the sink node through multiple hops which is important for network reliability increases the overall energy consumption in the network. Several schemes were proposed in the past to address the reliability needs and also to minimize the energy consumption in the network. In this context, this paper proposes a novel strategy for IEEE802.15.4/ZigBee based networks by incorporating a Distributed Energy Aware Routing (DEAR) protocol with a localized Cooperative Caching algorithm that addresses the query generated by a requester node or sink node with datum already existing in the locally available cache memory or in the memory of its one-hop neighbors or by the source node. The DEAR protocol considers battery level as a key factor to include nodes in its routing path. The proposed model is evaluated on the basis of three scenarios which were considered to illustrate the impact of energy consumption on the reliability of WSNs.

Keyword: Energy Consumption, WSNs, DEAR, Reliability, Cooperative Caching, IEEE802.15.4

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Authors: **P. V. Narasima Rao, Periyasamy P., Vasudeva Rao, Ramanan N., Naveen**

Paper Title: **Mechanical Behavior of Aluminum Metal Matrix Composite for Wheel Hub Application**

Abstract:Now the days of light weight application in a industry. In light weight application the material also strength of the material also important once. The material behavior load character station and application area also important once. The most of the material not suitable for the application. In this work the aluminum MMC material has been chosen in this work. The main focus of the work is aluminum alloys wheel hub area. The main problem is wear resistance. Generally the alloy wheel hub are with stand in a 50000 KM in motor cycle. Then after they are wear out. When increase the hardness of the material hence the decreasing wear out corresponding wear resistance also improved. In this work the aluminum MMC as taken different level and observed which one material as chosen for the application. Finally we are discussed with fracture surface of the materials

Keyword: Wheel hub material, wear character station, Fracture surface, material Character station

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10. Yaobin Wang, Yongxian Huang, XiangchenMeng, Long Wan, Jicai Feng Microstructural evolution and mechanical properties of Mg-Zn-Y-Zr.

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Authors: **Jyoti Tripathi, Prafull Goel, Raman Bhadauria, Nikhil Yadav, Keshav Gupta**

Paper Title: **American Sign Language to Text - Speech using Background Subtraction using Running Averages**

Abstract:This Paper Proposes A System Which Converts American Sign Language Hand Gestures Into Text Cum Speech And Helps To Bridge The Communication Gap Between Deaf-Mute People And Rest Of The Society. Any System For This Purpose Generally Has Four Modules: Segmentation, Feature Extraction, Classification And Text-To-Speech. This Paper Focuses On An Improved Method For The Segmentation And The Feature Extraction Processes To Get More Better Resultswhile Using The Standard Techniques On The Other Two Modules. Proposed Algorithm Captures Initial 30 Frames Of The Live Video From The Web Cam Of The System To Construct The Background Model. It Then Finds The Absolute Difference Between The Current Frame And The Background Model In Order To Get The Foreground. Various Features Are Extracted

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To Classify The Gestures Like Contour, Convexity Hull Etc.. Proposed Algorithm Has Been Tested Under Low And Normal Room Light Conditions. The Overall Performance Of The Proposed Model Will Be Very High And Will Produce Far More Better Resultsdue To Improved Proposed Algorithms For The Initial Two Modules In Comparison To Other Standard Techniques Used Like Hsv, Ycbcr The Above System Can Be Incorporated Into Simple Web Applications, Mobile Applications And Many Other Applications Translating Gestures In The Conversations In Real Time.

Keyword:ASL, Background Subtraction, Running Averages, Segmentation, Feature Extraction, HSV, YCbCr.

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Authors: **K.NarasimhaRaju, Koduru Suresh, Dekka Satish, Pudi Ganesh**

Paper Title: **Fuzzy Logic Based Energy Efficient Mechanism for Dymo in Mobile AD HOC Networks**

Abstract:Mobile ad hoc network (MANET) attracted various researchers in the emerging communication networks without having any centralized structure. In this network, mobile nodes moves in their own wish creating a dynamic topology. Routing is a cumbersome task with this dynamic topology from time to time change in connection pattern. DYMO is emerged as challenging protocol in MANET but works on static configuration parameters such as Hello messages. The mobile device updates the connectivity of their neighbours by sending Hello messages at frequent intervals irrespective of the network scope (terrain) and network elements(number of nodes). As the mobile nodes are battery equipped devices, lot of energy is consumed with these messages. Energy efficient mechanisms are necessary in this type of networks. In this work, DYMOHBFLWTN mechanism is proposed to set the Hello parameter dynamically in DYMO considering network terrain and number of nodes utilizing fuzzy principles. Experiments are conducted on Qualnet 7.0 simulator to evaluate mechanisms - DYMOHBFLWTN and DYMO. The proposed DYMOHBFLWTN mechanism provides better results compared to existing DYMO.

Keyword:DYMO, DYMO HBFLWTN, FuzzyLogic, Hello, MANETs.

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Authors: **D.Tamilarasi, P. Pavithra, P. Ramesh**

Paper Title: **Implementation of Stepped Frequency Modulation Pulse Compression on NI Suite**

Abstract:In Radars and Sonar, the pulse compression technique is used continuously to increase the range resolution, range detection and the signal-to noise ratio (SNR). This can be achieved by modulating the transmitted pulse and then correlating it to the received pulse with the transmitted signal. This transforms short pulse into long pulse and is used to increase long pulse bandwidth by some form of modulation such as linear frequency modulation (LFM), so that Range Resolution is not compromised. The proposed Stepped Frequency Modulation (SFM) is a common Pulse Compression Method, which is useful to increase the Radar Range Resolution without losing the capability of target detection. Step Frequency Continuous Wave (SFCW) is also one of the techniques used in the Pulse Compression Technique, where the return echo step is used to determine range and is used for different purposes. This type of setup is widely used in RADAR design and testing. This Paper proposes the implementation of various Modulation techniques such as LFM, SFM and SFCW for proposed Stepped frequency Modulation using NI suite hardware PXI system which has a configurable FPGA and RF front end to generate custom waveform in wide range of frequencies with bandwidth up to 1GHz design and testing.

Keyword: Radar, Linear Frequency Modulation, Pulse compression, Step frequency Continuous Wave, NI suite.

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Authors: **D.V.Satya Prasad Nulu, M.N.V. Alekhya, P.Phani Prasanthi, K. Manoj Kumar, G E V Ratna Kumar**

Paper Title: **Preparation and Characterization of Tungsten Carbide WC/Cobalt Composites by Powder Metallurgy Method**

Abstract:The Tungsten carbide (WC) based composites are good choice to replace the traditional conventional materials for obtaining high hardness and wear resistance. This work investigates the influence of cobalt content on the characterization of Tungsten carbide. The composite specimens are prepared by using powder metallurgy technique. The effect of cobalt material on the performance of Tungsten carbide hardness, fracture toughness is estimated by conducting suitable experiments. While performing experiments, a powder mixture of 89% WC, 11% of Co was manufactured with powder metallurgy, under appropriate milling conditions and Sintering temperature to ensure uniform microstructure. From the present work the optimum sintering temperature of Tungsten carbide mixed nano cobalt composite is identified. The crystalanity of the resulting materials is identified from a rapid analytical technique, X -ray Diffraction.

Keyword: Tungsten carbide, cobalt, powder metallurgy, hardness, Fracture toughness, sintering temperature

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	Authors:	**S. Vahini Ezhilraman, Sujatha Srinivasan, G.Suseendran**
	Paper Title:	**Breast Cancer Detection using Gradient Boost Ensemble Decision Tree Classifier**

372.

Abstract:Detection of any abnormalities in the human is a big challenge faced by many of the field experts. One such challenge is to detect the Breast Cancer. The prime mottobehind in making this paper is to detect the breast cancer with the help of breast images in an advanced and appropriate way. In this study, an attempt is made in such a way by applying the combination of various existing technics in the extracted breast images for getting better result in detecting the Breast Cancer. Consequently,feature extracting images are appliedusing Light gradient boosting ensemble decision tree classifier for identifying benign and malign features of an image. As a result, the normal and abnormal breast cancer image is detected by combining above applications. Besides, classification accuracy and minimize classification time metrics are also achieved more appropriately than the existing detectingtechnics.

Keyword: Gaussian training loss , Breast Cancer detection, Kullback–Leibler divergence value ,Light Gradient Boost, Base classifiers, c4.5 decision tree, Steepest Descent Function

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	Authors:	**Archana K. S, Latha M, Sheela Gowr P**
	Paper Title:	**Characterizing and Countering Communal and Anti-Communal Tweets During Disasters**

373.

Abstract:Various tweets shared during a disaster situation encompasses data related to current scenario and about emotions/opinions. By analyzing these communal tweets, abusive posts which targets various religiousandracial groups during natural calamities has been found. By reviewingits effects, a classifier has been developed to distinguish between communal and non-communalmessages, which shows better performance. People posting such communal tweets has been analyzed which says that most of them are posted by popular users from media, politicsand form strong correlated groups in the social network which makes it to reach

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higher. An event-independent classifier has been proposed whichidentifiesanti-communal tweets automatically and propose a way to counter back. A real-time service has been developed to find tweets automatically related to an emergency segregating communal and anti-communal tweets. Government and local monitoring agencies can use this system for making decisions like filtering or to promote some news.

Keyword: Tweets, Communal, Non-Communal, Event-Independent classifier.

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Authors: **Gondi Yasoda Devi, Gurrala Venkateswara Rao**

Paper Title: **Impact of Improved Chicken Swam Optimization Based A* algorithm In MANETs Routing**

Abstract:Wireless devices utilization had increased drastically, which has shown an impact on over-all demand and utilization Mobile Ad-Hoc Network (MANET). Routing protocol is the fundamental and vital performance factor in the Mobile Ad-hoc Network (MANET). The routing protocols in MANET are accomplished to handle a lot number of nodes with restricted resources. Multiple routing protocols exist in MANETs. Once of the main challenges in routing protocols is its generation of adverse influence on network performance. Accordingly, this paper plans to implement an obstacle-ware MANET routing model using improved meta-heuristic-based A* algorithm. The algorithm efficiently plots a path between multiple nodes avoiding obstacles, or points, on the graph that results in producing a shortest path without any obstacles. The improved meta-heuristic algorithm termed as Fitness and Position Ratio-based Chicken Swarm Optimization (FPR-CSO) is used to improvise the A* algorithm. The comparative analysis of different optimized A* over Ad hoc On-Demand Distance Vector (AODV) confirms the consistent performance of the proposed model.

Keyword:MANET Routing; Optimal Shortest Path; Obstacle Aware Routing; A* Algorithm; Fitness and Position Ratio-based Chicken Swarm Optimization

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Authors: **Shalini Rajendra Babu, N. Ramya**

Paper Title: **On Rainbow Connection Number of Some Graphs**

Abstract:The Rainbow connection number for the following graphs, two copies of Fan graph by a path , Arrow graph and Θ , Jellyfish graph and Cycle Cactus graph have been described in this paper

Keyword: Rainbow Coloring, Fan Graph, Arrow Graph, Corona Θ , Jellyfish graph, Cycle Cactus graph.

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Authors: **Shakuntla Boora**

Paper Title: **Performance Assessment Techniques for the 3-Phase IAG**

Abstract:This manuscript covers the analytical and optimization based techniques for the performance assessment of 3-phase IAG furnishing 3-phase and 1-phase load. It examines initially the basic phenomenon of voltage build-up and then the steady state performance of 3-phase IAG furnishing 3-phase and 1-phase load. This preliminary study forms the foundation or basis of the design of future controllers. The conventional techniques and MATLAB based optimization technique fsolve is elaborated in detail along-with advantages and disadvantages for attaining the solution of simultaneous non linear equation. The fsolve technique is recommended for the solution of non-linear equations due to its advantages over conventional method.

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Keyword:IAG, steady-state condition, transient state condition, Numerical techniques, MATLAB, fsolve technique, Optimisation.

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Authors: **Seng Hansun, Putu Perdana Kusuma Wiguna, Febri Wicaksono, Muhammad Rheza, George Hodge**

Paper Title: **Mapping the Spatial Accessibility of Riau's Health Facilities using QGIS**

Abstract:In this study, we try to map the health facilities' spatial accessibility in Riau Province, Indonesia. Access to proper health facilities is a determinant factor in a country's development. There are some problems in establishing and developing health facilities; one of them is the health facilities' accessibility during disaster hazards. Therefore, the health facilities' location will be related to common disaster hazards, such as forest wildfire and floods. We use QGIS software to help in building and analyzing the spatial accessibility with the final web application that can be used as a supporting tool for decision-makers.

Keyword: Health facilities, flood, forest wildfire, spatial accessibility, Riau.

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Authors: **G.Anusha**

Paper Title: **Reasons for the failure of B.Tech Students in Mathematics using Combined Disjoint Blocked Fuzzy Cognitive Maps (CDBFCM)**

Abstract:At the present time most of the B.Tech. students are failing in Mathematics subject. The reason is they are not having fundamentals. Lack of practice also one reason. Because most B.Tech. Students are with attitude problem. In this paper we are going to investigate the causes for the failure of B.Tech Students in Mathematics with the help of Combined Disjoint Block Fuzzy Cognitive Maps (CDBFCM). W.B. Vasantha Kandasamy, A. Victor Devadoss started the technique. This technique will be efficient if the numeral of concepts are big in figure and we have to cluster them. The troubles are going to be discussed here with the assist of Combined Disjoint Block Fuzzy Cognitive Maps (CDBFCM). Finally, we are going to identify the most important causes for the failure of B.Tech. students in Mathematics. For this we used neutrosophic device. There are five sections. Section one provides details regarding Fuzzy Cognitive Maps and the the causes for the failure of B.Tech. students in Mathematics. Section two provides basic concepts of Fuzzy Cognitive Maps, Combined Disjoint Block Fuzzy Cognitive Maps. Process of finding the unseen outline was given in section three. The difficulties are given in section four. After the completion of work decisions are given in the last section.

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Keyword: Combined Disjoint Blocked Fuzzy Cognitive Maps, Failure of Mathematics, B.Tech. students

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Authors: **S. J. Patil, L. S. Admuthe, M. R. Patil**

Paper Title: **Confidence-based Security System for Routing Protocol in Mobile Ad-hoc Networks**

Abstract:A mobile ad-hoc network (MANET) is an infrastructure-less network of wireless nodes. The network topology may change quickly with respect to time, due to node mobility. The network is a disintegrated network, activities such as delivering messages by determining the topology essential to be implemented by the nodes themselves i.e., the routing activity will be unified into mobile nodes. Due to the lack of centralized administration in multihop routing and open environment, MANET's are susceptible to attacks by compromised nodes; hence, to provide security also energy efficiency is a crucial issue. So as to decrease the hazards of malicious nodes and resolve energy consumption issues, a simple confidence-based protocol is built to evaluate neighbor's behaviour using forwarding factors. The reactive Ad-hoc on-demand multipath distance vector routing protocol (AOMDV), is extended and confidence-based Ad-hoc on-demand distance vector (CBAOMDV) protocol, is implemented for MANET. This implemented protocol is able to find multiple routes in one route discovery. These routes are calculated by confidence values and hop counts. From there, the shortest path is selected which fulfills the requirements of data packets for reliability on confidence. Several experimentations have been directed to relate AOMDV and CBAOMDV protocols and the outcomes show that CBAOMDV advances throughput, packet delivery ratio, normalized routing load, and average energy consumption.

Keyword:AOMDV, CBAOMDV, MANETs, Security.

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Authors: **S.Kavitha, S.Manikandan**

Paper Title: **Improving the Automobile Purchasing Behavior of Customer: Classification Techniques**

Abstract:Data mining (DM) is the automate detection of relevant pattern from the database. E-Commerce is a very famous as well as frequently used new technique in the real world applications. DM is an automate detection of relevant patterns from large amount of information repositories. E-Commerce is a Killer-domain for data mining. DM is often a complex process and may require a variety of steps before some results are obtained. To predict behaviors and future trends many tools are available in DM, also allowing the businesses to make proactive pathways for the customer. In this research work, it is taken online shoppers purchasing vehicle data set and find accuracy in terms of its purchasing behavior using some of the classification algorithms. The classification algorithms namely Bayes Net and NavieBayse are utilized for the analysis and a comparative study of both the algorithms are carried out. Finally, the performance of the chosen algorithm is suggested for analyzing the vehicle data set based on the purchasing behavior of the customer and predicts some accuracy.

Keyword: Classification Algorithms, Bayes Net, Naïve Bayes Algorithms.

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Authors: **Subhashree.P, G.Gunasekaran**

Paper Title: **PPDM for Medical Data using Visual Cryptography**

Abstract:Privacy preserving data mining is a growing field with advancements reported frequently. In this paper, for maintaining privacy of medical data of patients, a novel visual crypto technique of peeling with modular scheme is proposed. In this work, using the concept of group theory, PPDM for medical data is done using Verilog.

Keyword: Visual Cryptography,Concurrency, Image Slicing, privacy preservation.

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Authors: **Salikun , Anisa Puspita R , Hadiyat Miko , Muhammad Saleh**

	Paper Title:	**The Relationship Between Intrinsic and Extrinsic Motivation in Tooth Brushing Against Index Debris Scores on Students At Sdn Sendangmulyo 02, Semarang City**	
	Abstract:Caries are one of the serious health problems in school-age children especially elementary school. Dental caries are one of which is influenced by the behavior of people in maintaining dental and oral health. Public behavior of dental health, one of which is influenced by a person's motivation in the habit of brushing teeth. The aim of the study was to analyse intrinsic and extrinsic motivational relationships in brushing teeth against the index debris score and tooth brushing skills at the students of SDN Sendangmulyo 02, Semarang in 2019. The types of research used are analytical surveys using questionnaires with cross sectional research plans. The samples in this study amounted to 53 samples and used purposive sampling techniques. Data analysis is conducted with the analysis of univariate and bivariate, test the relationship using the test of Spearman rank. Statistical test results showed there was a link between intrinsic motivation and extrinsic students in tooth brushing against index debris scores and tooth brushing skills, where intrinsic motivational variable statistical test results show the value of ρ-value = 0.489 (ρ-value > 0.05) and extrinsic motivation indicating the value of ρ-value = 0.095 (ρ-value > 0.05). Conclusion: There is no relationship between intrinsic motivation and extrinsic motivation to the index debris score in the students of SDN Sendangmulyo 02, Semarang City Central Java. **Keyword:**motivation, index debris score, tooth brushing skills **References:** 1. Anggraini, IS (2011). Learning motivation and factors that influence a study on student learning interactions. Journal of Elementary Education and learning. 1 (2): 104. 2. Arikunto, S (2013). Research procedure. Jakarta: Rineka Cipta. 3. Asmawati, Pasolon FA (2007). Analysis of dental caries relationship and nutritional status of children aged 10 – 11 years in Elementary Athirah, SDN 1 Bawakaraeng and SDN 3 Bangkala. Dentofacial journals. 6 (2), pp: 78-84. 4. Ministry of Health Research and development of Depkes RI (2013). Basic health research. PP: 110-117. 5. Basuni, Cholil, Princess DKT (2014). Overview of oral Hygiene index based on community education level. Dentino Journal of Dentistry. 2 (1): 22. 6. Budiman and Riyanto A (2013). The Capita is a questionnaire for knowledge and attitude in health research. Jakarta: Salemba Medika. 7. Depkes (2000). Dental and oral Health Service guideline, Indonesia healthy 2010. Jakarta. 8. Prayitno, Elida (1989). Motivation for learning and achievement. Jakarta: Department of Education and Culture Directorate General of High Pedidikan. 9. Hockenberry, MJ and Wilson, D (2007). Wong's nursing care infants and children. St. Louis: Mosby Elsevier. 10. Ministry of Health RI (2012). The disease is not contagious bulletin Windows data and health information. Jakarta: Kemetrian RI Health. 11. Lumempouw N, Mintjelungan CN, Zuliari K (2017). Dental and oral hygiene Status based on tooth brushing with combination techniques on left-handed and non-lefty children. E-Dental journals, 5 (1): 85. 12. Notoatmodjo, S (2007). Education and health behaviors. Jakarta: Rineka Cipta. 13. Sariningsih, Endang. (2012). Caring for children's teeth from an early age. Jakarta: Kompas Gramedia 14. Stecksen-Blicks, C. Holm, AK (1995). Between-meal eating, toothbrushing frequency and dental caries has 4-year-old children in the north of Sweden. International Journal Paediatric Dentistry, 67-72. 15. Tandilangi M., Mintjelungan C, Wowor VNS. (2016). Effectiveness of dental health education with animated cartoon media to change the behavior of dental and oral health students of Advent 02 Sario Manado. E-Dental journals, 4 (2): 106 – 110. 16. Uno, HB (2016). Theory of motivation and measurement of analysis in the field of education. Jakarta: Earth Aksara. 17. Republic of Indonesia LAW number 36 year 2009 on Health (2009). Republic of Indonesia LAW number 36 year 2009. 18. World Health Organization (2012). Oral Health. WHO Media Centre. World Health Organization, April 2012	**2228-2230**
383.	**Authors:**	**Om Prakash Sharma, Sivaramkumar P**	
	Paper Title:	**An Improved Multi-Biometric System for Authentication**	
	Abstract:Biometrics is the new technology for calculating and measuring the body parts of a person. It is playing an important role in identifying an individual. It signifies a metrics related to person characteristics (physiological or behavioral). Biometric system may be based on single modal or multiple modals. Multimodal system also termed as multi-biometric system (hybrids two or more modals) are becoming popular. The idea behind the paper is to implement and improve the authentication processusing multiple trait for identifying a person. Here, the combination of Iris & Fingerprint based biometric model is presented. The relevant features (key-points) are extracted from these two traits in parallel and then they are passed through matching module. The key-points are extracted using Discrete Wavelet Transform (DWT) and Speeded-Up Robust Feature (SURF) descriptor and then passed to the matching (mapping) module where mapping is done using the Normalized Weighted Sum-Rule. The experimental result showed that the proposed multi-biometric model performs well showing clear variation in FAR and FRR against the existing models. **Keyword:**Biometric, multimodal, fingerprint, iris, authentication, recognition. **References:** 1. Kresimir Delac and Mislav Grgic, “A Survey of Biometric Recognition Methods”, International Symposium on Electronics in Marine, 2004, pp (184–193). 2. Surya Prakash and Phalguni Gupta, “Human Recognition using 3D Ear Images”, Neurocomputing (2014), http://dx.doi.org/ 10.1016/j.neucom.2014.03.007, Elsevier. 3. Anil K. Jain, “Fundamentals of Digital Image Processing”, Prentice Hall Information and System Sciences, Editor- Thomas Kailath. 4. [Anil K Jain, Arun Ross, and Salil Prabhakar, “An Introduction to Biometric Recognition,” IEEE Transactions on Circuits and Systems for Video Technology, Vol.14, 2004, pp (1-29). 5. Zhang D. et. al, “Advanced pattern recognition technologies with applications to Biometrics”. Medical Information science	**2231-2238**

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Authors: **R Murali Mohan, U N Kempaiah, Seenappa, Madeva Nagaral**

Paper Title: **Processing and Mechanical Characterization of ADC12 alloy-B4C-RHA Hybrid Composites**

Abstract:The effects of dual particulates addition on the mechanical behaviour of ADC12 alloy composites were studied. Boron carbide (B4C) and rice husk ash (RHA) particulates were used as the reinforcements in the ADC12 alloy base matrix. Hybrid composites were prepared by using liquid melt method, keeping 5 wt. % of B4C reinforcement constant and varying rice husk ash particles in steps of 3 and 6 wt. % in the ADC12 alloy. Samples were tested for microstructural characterization by using SEM and EDS. Mechanical behaviour like hardness, ultimate tensile strength; yield strength, percentage elongation and compression strength were evaluated as per ASTM standards. SEM photographs revealed the uniform distribution of B4C and RHA particulates in the ADC12 alloy and these particles were confirmed by EDS analysis. Further, hardness, tensile and compression properties of base matrix ADC12 alloy was enhanced with the addition of B4C and RHA particulates. Ductility of ADC12 alloy decreased after the incorporation of B4C and RHA particles.

Keyword:ADC12 Alloy, Boron Carbide, Rice Husk Ash, Stir Casting, Microstructure, Mechanical Properties

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Authors: **Abdul Rehman Gilal , Hafiz Ahmed Ali, Khisaluddin Shaikh, Ahmad Waqas, Rizwan Ali Abro, Ruqaya Gilal**

Paper Title: **Respect Human Value to Control Software Development Failure**

Abstract:People learn and define their own values to interact in different situations. It is important to know the

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human values (HV) for dealing humans in better ways. HV can also be helpful for software development managers to make right decisions for managing their teams well. Unfortunately, to a great extent, the very factor is ignored in software engineering (SE). This study aims to provide a basic motivation of the topic to SE researchers to carry out some empirical evidences to control software development failures through respecting software developers' HV. In order to operationalize the study, few disciplines, in which the HV are empirically discussed, are considered to replicate the impacts on software development. The factor HVs is well connected with satisfaction and improvement outcomes in sociology, education and management studies. Likewise, this study also literates the importance of HVs for successful software project development. This study concludes that HV can form strong correlations with software development roles and can be used to minimize the software failure.

Keyword: Software Engineering, Human values, software development, and Publications.

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Authors: **Arpita Roy, Nikhat Parveen, P.Rama Bhargavi, A.Navya, A.Pavan Kumar**

Paper Title: **Disciplinary Control System Based on Naïve Bayes Classification Technique using Jsp Servlets**

Abstract:The idea behind the task is to create the complaint about the student, who behaves mischievously in any circumstances by not following the dress code which includes things like identity cards, shoes, tuck especially for men, students should not carry mobiles to college if any person/student violates these rules then the disciplinary committee members have the authority to take off that particular student's belongings (I.e. I'd card, mobiles). If that particular student caught more than one time for any condition then then the disciplinary committee will charge a fine and sometimes the mobile phones and I'd cards will be moved into locker (where they head of the committee members will have capacity to keep with them more than 3 days to 1 month, sometimes they will keep with them 1 year too. Students have to spend much time to take their belongings from the disciplinary committee members and also to take permissions, instead of that we are created a website and in that website students, disciplinary committee members including administrators can read, write, create and delete the comments that are created. From that data we can analyse in the way of plotting techniques and classification approach in which year students are not in discipline manner.

Keyword: Student management, Naïve Bayes classification, JSP Servlets, R Programming, plotting techniques.

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Authors: **Vivek Kumar, D.K. Parsediya**

Paper Title: **Design and Simulation of Spoon Shaped Antenna using DGS**

Abstract:A planer spoon shaped antenna with defected ground structure (DGS) is designed and fabricated for wireless application. The proposed antenna design exhibits 1.6GHz bandwidth, 2.20dBi Avg. Gain and maximum return loss of -24.5dB, which offers better results in wideband application. The Proposed antenna structure is simulated by software CST MWS (CST Microwave Studio) version 2018 and later comparison results are also presented

Keyword:DGS, Bandwidth, Return loss, Avg. Gain, CST MWS.

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Authors: **R. Muneeswaran, M. Babu, J. Gayathri**

Paper Title: **Investors' Behaviour on Investment Avenues**

Abstract:Investors are confronted with a set of investment avenues, to spend their savings, based on the risk and returns availability. The behavior of investors would differ with reference to time, personality and specific

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needs. Therefore, the study proposes to assess the influence of demographical factors and sources of information on the investors' awareness and risk attitude, towards various investment avenues. A structured questionnaire was prepared and administered to a sample of investors. It has been found that the rural and urban investors differed in their risk attitude and awareness towards various investment avenues. The Married and unmarried investors did not differ in their awareness but they differed in their risk attitude and risk levels faced by investors differ with respect to age and educational qualification of the investors. The study concludes that the recent technology development could provide knowledge to the investors about their investment options and risk level to take informed decisions on investment.

Keyword: Avenues, Decision, Risk, Return, Behaviour

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Authors: **Munmi Gogoi, Shahin Ara Begum**

Paper Title: **Optimizing Deep Network for Image Classification with Hyper Parameter Tuning**

Abstract:The deep network model comprises of several processing layers and deep learning techniques help us in representing data with diverse levels of abstraction. Based on the practical importance and the efficiency of machine learning, optimization of deep models are carried out relating to the objective functions and its parameters for a particular problem. The present work focuses on an empirical analysis of the performance of stochastic optimization methods with regard to hyperparameters for the deep Convolution Neural Network (CNN) and to understand the rate of convergence of the optimization methods in high dimensional parameter spaces. Experimentation has been carried out in deep CNN model with different optimization methods viz. SGD, AdaGard, AdaDelta and Adam. The empirical results are evaluated using benchmark CIFAR10 and CIFAR100 datasets. The optimal values of the hyperparameters obtained demonstrates that the optimizer Adam shows the best results compared to other methods viz. SGD, AdaGard, and AdaDelta over the considered datasets. Further, it is noted that classification accuracy can be increased by choosing the best optimization techniques with hyperparameter tuning to get the optimal configuration of the deep CNN model.

Keyword: Optimization techniques, CNN, hyperparameter.

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Authors: **M.Jeyakarthic, S.Manikandan**

Paper Title: **An Energy Efficient Load Balancing Protocol for Multi-Hop Clustering in Wireless Sensor Network**

Abstract:Cluster based WSNs is a rising and empowering technical knowledge with the achievable to revolutionize Data Communication Technology. The purpose of WSN stretch out to diverse areas such as the security and surveillance, Medical and Health, Military related application, Agriculture, Entertainment and so on. In wireless sensor networks (WSNs), the sensor nodes are highly distributed in order to sense and transform information to base station. However, the major challenge in WSN is to avoid collision and energy dissipation due to redundant data and thereby extending the network lifetime. To address this issue, a novel energy efficient load balancing protocol (EELB) for data forwarding in multi-hop clustering based WSN is proposed. EELB is a hierarchal cluster-based protocol which schedules the sensor nodes to different modes namely sleep mode and active mode by probing the data transformed to decrease energy consumption effectively. A sensor node is set to sleep mode when it senses and transfers redundant data for an extended time. The other sensor nodes remain enabled in active mode for sensing and transmission of data packets. Also, the proposed protocol selects a reliable cluster head based on remaining residual energy level and trust value of each node. The Simulation outcomes depicts that the proposed EELB protocol performs well than conventional protocol with respect to average energy consumption, lifetime of nodes and the Packet Delivery Ratio.

Keyword: Clustering, Load balancing, Scheduling, Sensor node

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Authors: **Anurima Majumdar, SisirkKumar Das, AnnapurnaaDas**

Paper Title: **A Multiband Arrow Shaped Patch Antenna Based on Apollonian Gasket and Soddy's circle for Application in LTE and UWB range**

Abstract:A novel arrow shaped planar multiband antenna based on apollonian gasket and Soddy's circle with

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Defective Ground Structure (DGS) is described in this paper. The structure is designed on an FR4_epoxy substrate (εr=4.4).The performance is evaluated using HFSS software. The antenna displays multiband behaviour in the frequency range from 3 to 10 GHz which is suitable for wireless communications applications.The antenna gives tri-frequency response in LTE range(600 MHz-6GHz):1.17 GHz, 3.44 GHz and 6 GHz;and tetra frequency response in the UWB frequency range(3 GHz to 10 GHz): 8.1 GHz, 9.5 GHz, 11.8 GHz & 13.5 GHz which could be used in wireless and radar communications.The overall performance of the antenna demonstrates an average impedance bandwidth(IBW) of 300 MHz with a good impedance matching (S11< -10 dB).The proposed antenna has the satisfactory radiation characteristics throughout its operating band. The measured highest gain differs from 1 dBi to 1.9 dBi inthe entire frequency range.

Keyword: Arrow shaped antenna, apollonian gasket, Soddy's circle,multiband, defected ground structure(DGS), microstrip patch antenna (MPA)

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Authors: **Shraddha Sharma, Mohan Kumar Gupta, Shashi Kant Jaiswal, Smita Gupta**

Paper Title: **Effect of Epoxy Coating on Structural Steel Section under Tension**

Abstract:Structural steel connections are one of the most critical components of any steel structure as the cross-sectional area of steel sections reduces due to bolt holes. Failure of a structural connection may lead to failure of entire steel structure. Many researchers have tried to improve the connections previously by gluing fiber

polymers at the connection. In this research glue or epoxy has been used around the bolt holes to simplify the process of using fiber polymers with steel. Epoxy is a combination of resin and hardener. It is proposed here to strengthen the structural steel connection in new structures and also in existing structures by applying a thin coat of suitable epoxy around the bolt hole. Thin steel plate with hole at the centre was tested under tensile load and results for ultimate load, breaking load, corresponding stresses and displacements obtained. Another steel plate with same geometry was then epoxy coated around the hole and same test was conducted on this specimen. Results for yield, ultimate, breaking loads and corresponding stresses and displacements recorded. The load-displacement curve is generated for both the cases and compared. The ultimate load bearing capacity of the plate increased in tension slightly after epoxy coating. Significant increase in breaking load observed as the thickness of epoxy layer was increased. Increase in the ductility of the composite plate is seen as increase in displacement is visible. There was considerable reduction of average stress around the center hole. The results indicate that structures can be safer against total failure and will give adequate warning before collapse.

Keyword: Epoxy, epoxy-coating, composite-section, stress reduction.

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393.	**Authors:** **Sanjay B. Ankali, Latha Parthiban** **Paper Title:** **Development of Cross Language Clone Detector for C, C++ & Java Repositories using Natural Language Processing**	**2289-2293**

Abstract:Reusing the code with or without modification is common process in building all the large codebases of system software like Linux, gcc , and jdk. This process is referred to as software cloning or forking. Developers always find difficulty of bug fixes in porting large code base from one language to other native language during software porting. There exist many approaches in identifying software clones of same language that may not contribute for the developers involved in porting hence there is a need for cross language clone detector. This paper uses primary Natural Language Processing (NLP) approach using latent semantic analysis to find the cross language clones of other neighboring languages in terms of all 4 types of clones using latent semantic analysis algorithm that uses Singular value decomposition. It takes input as code(C, C++ or Java) and matches all the neighboring code clones in the static repository in terms of frequency of lines matched.

Keyword: Cross language Clones, Porting, Natural Language Processing

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Authors: **K. Shashidhar Reddy, M.Lakshmi Swarupa, D.Mamtha**

Paper Title: **Application of Zone Selective Interlocking in Electrical Power Distribution System**

Abstract:The two major concerns in today's electrical distribution system are the potential damage from fault stress and the costs associated with power outages. The optimal way to limit fault stress is to clear the fault in the shortest amount of time. Unfortunately, clearing the fault within the shortest amount of time might sacrifice coordination and lead to broader power outages. Zone Selective Interlocking Coordination assures the possible sustaining of faults for over currents and voltages with different faults. The circuit breaker operation and principle depend upon the open and close operation for the continuity of supply/service. To reduce the stress on the system, generated energy during fault conditions to be considered and its coordination to be checked.

Keyword: Distribution system, Zone selective interlocking, Coordination, MATLAB - SIMULINK.

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395.

Authors: **R.Chinna Rao, D.Elizabath Rani, S.Srinivasa Rao**

Paper Title: **Performance of Various VoIP Vocoders using Wireshark with Asterisk PBX**

Abstract:A private branch exchange (PBX) is implemented by an Asterisk software. In conjunction with appropriate telecommunication hardware interfaces and network applications, Asterisk is employed to establish and manage the telephone calls between telecommunication endpoints, like customary telephone sets, destinations on the general public switched telephone network (PSTN), and devices or services on voice over internet Protocol (VoIP) networks. A Vocoder may be a system of coders and encoders that is employed to scaleback the bandwidth over the restricted use of bandwidth necessities and restricted capability channels in real time needs. This paper presents Performance of Various VOIP Vocoders using wireshark with Asterisk PBX.

2300-2305

Keyword: Vocoders, Asterisk PBX, VOIP, Wireshark.

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396.

Authors: **Son Ngoc Truong**

Paper Title: **Optimizing the Distribution of Memristance Values of Memristive Synapses for Reducing Power Consumption in Analog Memristor Crossbar-Based Neural Networks**

Abstract:Memristor circuits have become one of the potential hardware-based platforms for implementing artificial neural networks due to a lot of advantageous features. In this paper, we compare the power consumption between an analog memristor crossbar-based a binary memristor crossbar-based neural network for realizing a two-layer neural network and propose an efficient method for reducing the power consumption of the analog memristor crossbar-based neural network. A two-layer neural network is implemented using the memristor crossbar arrays, which can be used with analog synapse or binary synapse. For recognizing the test samples of MNIST dataset, the binary memristor crossbar-based neural work consumes higher power by 19% than the analog memristor-based neural network. The power consumption of the analog memristor crossbar-based neural network strongly depends on the distribution of memristance values and it can be reduced by optimizing the distribution of the memristance values. To improve the power efficiency, the bias resistance must be selected close to high resistance state. The power consumption of the analog memristor-based neural network is reduced by 86% when increasing the bias resistance from 20KΩ to 160KΩ. For the bias resistance of 160KΩ, analog memristor crossbar-based neural network consumes less power by 89% than the binary memristor crossbar-based neural network.

Keyword:memristor, memristor crossbar, memristive synapse, handwritten digit recognition.

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2306-2309

397. **Authors:** **C. Divya, D Francis Xavier Christopher**

	Paper Title:	**SM-ARP: Stochastic Markovian Game Model for Packet Forwarding Based Arp Spoofing Attacks Detection**

Abstract:Address Resolution Protocol (ARP) spoofing attacks have become the most pivotal attacks in deteriorating the performance of computer networks. The objective of this paper is to develop SM-ARP, Stochastic Markovian game model based ARP spoofing attack detection scheme.Although many recent techniques have been developed to detect and protect against ARP spoofing attacks, the practical challenges has led to ineffective utilization. The major challenge is that the attackers employing ARP spoofing tend to alter the attack strategy at each point and increases the difficulty in detection and security implementations. The packet forwarding relaying is one suchattack strategy which is harder to detect using traditionally proven methodologies. This paper tackles the packet forwarding relay strategy based ARP spoofing attack strategy by using the proposed SM-ARPto eliminate the attack in a practically feasible manner. The proposed model utilizes a stationary Markov model for optimizing the packet forwarding behaviour of the networks. When an ARP spoofing attack is initiated, the SM-ARP model tracks the changes in the packet forwarding patterns through cache table and detects the misbehaviours. As a security measure, these misbehaved nodes are entitled to recovery and repair process to restore the network to stabilized state. Experiments are conducted to evaluate the performance of SM-ARP in an application for student marks management system. The results prove that the proposed SM-ARP model improves the detection of ARP spoofing attacks with accuracy of 88.2% and also reduces the complexity and errors.

Keyword: Address Resolution Protocol, ARP spoofing detection, cache poisoning, Stochastic Markovian game model, packet forwarding relay strategy, stationary Markov model, students marks management

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398.	**Authors:**	**T.R.Saravanan, K.Uma, C.RameshKumar, M.Basha Khaja**
	Paper Title:	**A Well-Organized Model in Cloud Computing Platform for Data Accessing**

Abstract:Cloud Computing is a trending technology. The main benefit is user will pay only for the resources which have been utilized in the cloud services. Data which are stored in cloud can be accessed by the people from anywhere in the world using internet connection. Because of difficulties in data access and lack of security, in the current database system people are moving to Cloud Service Provider (CSP). Network backup and recovery method are used in CSP so there is no data loss in case of hardware failure. In this paper, we planned an efficient model in cloud computing for data accessing which will reduce the search time of providing the public key of the data owner. Not only data storage and security, data access also plays an important role to consume less time. So, in this proposed system we are going to increase the time efficiency for the data accessing.

Keyword: Encryption, Data decryption, Data Storage, Cloud service Provider, Data access protocol.

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2319-2325

399.

Authors: **R.Nikkitha, L.Kalaivani**

Paper Title: **Influence of Arc Flash Performance and ESDD Measurement of Bushings Tainted by Nitrates**

Abstract:Tainting devastate the feat of bushings. Conductors are insulated inside the bushing that carry a high voltage current through a grounded enclosure. An aspiration is to study the pollution performance of bushings tainted by Nitrates.Arc flash tests of 1kV,11kV,17.5kV bushings are tainted by three types of salts such as NaCl, NaNO3, KNO3. The morsels are negotiated under habitual environment as per IEC 60507. The impact of tainting salts with their solubility on Equivalent Salt Deposit Density (ESDD) and bushings arc flash voltage are scrutinized. The effect of tainted salts on arc flash fruition, the sway of volume conductivity and Equivalent Salt Deposit Density (ESDD) under different percentages are also scrutinized. The research upshot reveals that the Equivalent Salt Deposit Density (ESDD) rate escalated with escalating salt content. When salt concentration gets escalated then conductivity also get escalated. When Equivalent Salt Deposit Density (ESDD) get Escalated then the arc flash voltage and leakage current get slacken. Finally, the graphs are drawn between ESDD and Arc flash voltage, Conductivity and Salt concentration, Arc flash voltage and Leakage current are obtained using MATLAB software.

Keyword: Bushing, Tainted, Pollution arc flash, ESDD.

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Authors: **Kapilya Gangadharan, G. Rosline Nesa Kumari, D. Dhanasekaran, K.Malathi**

Paper Title: **Plant Disease Diagnosis and Classification by Computer Vision using Statistical Texture Feature Extraction Technique and K Nearest Neighbor Classification**

Abstract:Pest attack and infectious diseases has become more common in the field of agriculture in the recent times. It has become a challenging task to identify the infection or the insect that destructs the plant growth and production. Diagnosing the disease or the insect attack on the plants in the early stage will safe guard the plant growth and the production rate. Timely intervention of technology that deals with disease detection and control method can protect the plants from usage of harmful pesticides. The higher dosage of pesticides impacts the health of human as well as other creatures like birds and animals which directly or indirectly consumes the plant or get in touch with the plants in different circumstances. A Computer vision technique which combines the Digital Image processing and Machine Learning methodology has been proposed to provide pest management solution. The disease detection is based on the statistical texture feature analysis and it is classified using K nearest neighbor classifier. Statistical PCA is combined with SIFT method to extract the key points, which eliminates the non-operational key points and SFTA is used to extract the texture. The system has achieved better result in identifying and differentiating the infection and insect attack on multiple plant taxonomy. The implementation has been performed using MATLAB.

Keyword: Computer Vision, Pest management, Machine learning, Diagnosis.

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Authors: **Shyleshchandra Gudihatti K N, Tanuja R, S H Manjula, Venugopal K R**

Paper Title: **E2CL, HC: Energy Efficient Cooperative Localized & Hierarchical Cluster Routing in CRN**

Abstract**:**With the advancement of Cognitive Radio Network (CRN), localization of primary users progress the

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improvement of network performance with respect to power adoption and reliability. Moreover, CRN localization is essential because storage energy of CR devices is limited and causes increased network lifetime. By considering these issues, we propose an Energy Efficient Cooperative Localization approach (EE-CL) in CRN, which is used for placing Primary User (PU) position with the help of mobile a aided CR. Moreover, communication among CRs cooperation which leads to demand of more energy, amobile CR is allowed to manage the overall positional accuracy and wake up minimum number of CR to collaborate CR manager. In order to investigate influence of accurate location knowledge, a location-aware CR (LaCR) routing protocol employed and to improve the network life time a Hierarchical clustering approach is applied. Weevaluated the simulation results for the proposed Energy Efficient Cooperative Localization (EE-CL) Routing approach which achieves better performance compared to existing Cooperative Localization (CL) with respect to energy efficiency. Furthermore, remarkable performance is accomplished by LaCR protocol in terms of PUs collision risk with the help of localization knowledge obtained from EE-CL approach. Also Hierarchical Cluster Routing protocol acheives significantperformanceinenhancingthenetworklifetime.

Keyword: Cooperative Sensing, CRN, Energy-efficiency, Hierarchical Routing, Localization.

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Authors: **S Sanyasi Naidu, Ch Ratnam**

Paper Title: **Delamination Assessment of FRP Composite Plate Using Natural Frequencies**

Abstract:The most frequent failure mode of composite plates is delamination. Deboning between the adjacent layers at a particular region of the multilayered composite plate is consider as delamination. It is due to a defect in the manufacturing practice or can be caused by service time conditions, for example, impact by foreign objects. Overall Stiffness of the composites reduces due to delamination. This paper presents the effect on natural frequency due to the delamination of the fiber-reinforced plastics (FRP) composites. In the finite element method, delamination is implemented as a VCCT or cohesive zone method, but in this article, delamination modeled as an open area in the interface layer in ANSYS ACP (pre).Numerical and experimental modal analysis is performed to delaminate as well as intact composite plates. Extract modal parameters like natural frequencies and mode shapes from the modal analysis. The results of the present paper compare among the existing simulation results and observe that good agreement between them. also, study the variation of frequencies with an increase of delamination. The new proposed modeling of delamination is simple and gives accurate results. This method i also used tostudy the delamination effect in composite plates.

Keyword: Delamination, Natural frequency, Composite plate, Modal analysis

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Authors: **Clément Adéoumi Labintan, Christian Enagnon Adadja, Mohamed Gibigaye, Hamid Zahrouni, Mahdia Hattab**

Paper Title: **The Influence of Rice Straw on the Physical and Mechanical Properties of Banco, an Adobe Reinforced with Rice Straw**

Abstract:Making adobes with the best mechanical properties for the construction of earthen housings is the overall goal of this work. Specifically, we study the influence of rice straw on the physical and mechanical properties of these adobes. The physical and mechanical properties (compressive and flexural strength) of adobes (mixture of sandy clay and rice straw) have been studied with different proportions of straw in the mixture. It is a question of

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determining the quantity of stalks of rice straw making it possible to optimize the mechanical performances of the composite. Various compositions have been considered with mass concentrations of rice straw ranging from 0 to 40% relative to the volume of clay sand to make 4×4×16cm prismatic specimens. The results obtained during physical and mechanical tests were presented in the form of a graph. The analysis of these data shows that the optimal addition of rice straw in the clay matrix is 25% for a better compromise between the compressive and tensile strengths. The improvement of the physical and mechanical properties of adobes is related to the good adhesion between the rice straw and the clay matrix, to the high tensile strength of the rice straw and finally to a good distribution of cracks in the composites.

Keyword: Banco, durable material, Clayey sand, Rice straw fibres, Physical and mechanical characteristics.

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Authors: **Rekha R S, K. N. Muralidhar**

Paper Title: **Implementation of Knowba Filtering Method for Intereference Rejection in NBDSSS**

Abstract:Spread spectrum communication is a communication method that deliberately makes the bandwidth of the transmitted waveform larger than would be required to transmit the data over the channel.One of the most encouraging multiplexing techniques for present and forthcoming telecommunications services, such as private communications, ad-hoc wireless communications, third-generation cellular telephony and sensor networks, is the CDMA(code division multiple access) implemented with direct-sequence (DS) signaling. DS-CDMA's benefits include superior operation in multi-path settings, flexibility in channel allocation, enhanced capacity in fading settings, and the capability to share bandwidth with narrowband communication technologies without deteriorating the efficiency of either system. In our work,we are proposing a new know-ba strategy to dismissing interference where originally monitoring signal environment with high precision is called from the library and subsequently based on data that is appropriate for dismissing interference. Various interference scenarios are simulated using computer simulations to show the efficiency of the method.

Keyword:DS-CDMA, sensor networks, interference, knowledge based strategy.

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Authors: **Elías-J. Ventura-Molina, Raúl Jiménez-Cruz, Adolfo Rangel-Díaz-de-la-Vega**

Paper Title: **Sensing and Forecasting of Pollution Data in Mexico City**

Abstract:In this paper we present the characteristics of sensors used to monitor the pollution levels in Mexico City, namely sulfur dioxide (SO2), nitrogen oxides (NOx), ozone (O3), , and carbon monoxide (CO). A novel algorithm to predict contamination levels is presented: the Gamma classifier. Also, a new coding technique is introduced, allowing the conversion from a series of values taken from SIMAT databases into a set of patterns, which in turn are useful for the task of pollutant forecasting. Experimental results show a competitive performance by the Gamma classifier as a predictor, when compared to other methods.

Keyword: Associative Memory, Pattern Classifiers, Pollutant Forecasting; Pollutant Sensing.

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Authors: **V. Vasyukov, I. Mozhaeva, A. Peretolchin, M. Kryuchenko, O. Kubanov**

Paper Title: **Features of Students Training: Qualifications and Technology**

Abstract:The article is based on the study of technologies and recommendations developed by the authors as a result of the experience accumulated in teaching a set of disciplines aimed at gaining knowledge and skills in the field of investigating certain types of crimes, performed at the Department of Investigation of the Lukyanov Orel Law Institute of the Ministry of the Interior of Russia from 2010 to 2019. The article examines the issues of preparation and selection of the most optimal training model, and the applied part provides the algorithm of a lesson, as well as options for assessing the work done by teams.

Keyword:algorithm, education, educational process, investigation, technology.

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Authors: **Seemanthini K., Manjunath S. S.**

Paper Title: **Small Human Group Detection and Validation using Pyramidal Histogram of Oriented Gradients and Gray Level Run Length Method**

Abstract:Over the decade's human detection in security and surveillance system became dynamic research part in computer vision. This concern is focused by wide functions in several areas such as smart surveillance, multiple human interface, human pose characterization, person counting and person identification etc. Video surveillance organism mainly deals with recognition plus classification of moving objects with respect to several actions like walking, talking and hand shaking etc. The specific processing stages of small human group detection and validation includes frame generation, segmentation using hierarchical clustering, To achieve accurate classification feature descriptors namely Multi-Scale Completed Local Binary Pattern (MS-CLBP) and Pyramidal Histogram Of Oriented Gradients (PHOG) are employed to extract the features efficiently, Recurrent Neural Network (RNN) classifier helps to classify the features into human and group in a crowd, To extract statistical features Gray Level Run Length Method (GLRLM) is incorporated which helps in group validation.

Keyword: Frame Generation, Hierarchical clustering, Multi-scale completed local binary pattern, Pyramidal histogram of oriented gradients, RNN and Gray level run length method.

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Authors: **Astha Sharma and Laxman Singh**

Paper Title: **Spectrum Opportunity Detection in Cellular Networks**

Abstract:The signal propagation over wireless channels cannot be predicted perfectly due to numerous factors such as fading, channel interference and obstacles. An interference footprint is required to be estimated accurately for evaluation of the spatial spectrum opportunity. It is difficult to determine the spatial spectrum opportunities available in uplink bands of cellular networks due to different location of primary users at different times. In this research work, spatial spectrum opportunity in uplink bands of cellular network is determined using an efficient computational geometry tool for realistic scenario. Our results shows that the performance of umbrella footprints based approach is better than that of conventional circular footprints based approach in terms of false alarm and missed detection probabilities.

Keyword: Interference Model; Opportunistic Spectrum Access; Power Control; Spatial spectrum opportunity; Umbrella Diagram.

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Authors: **Aamir Yousuf, Manish Kaushal, Nahal Mattoo**

Paper Title: **Impact of Combination of Natural and Synthetic Fibers on the Mechanical Properties of Concrete**

Abstract:Concrete has found its widespread application as a construction material. The use of different kinds of concrete have revolutionized the construction industry. Concrete as we know is very good in compression, however due to the development of micro cracks under tensile loading in concrete, the tensile strength of concrete is only 1/10th of its compressive strength. This drawback of concrete has been taken care of by the use of reinforcement in concrete. Rebars or reinforcement bars along with the concrete have added much to the tensile strength of concrete. Over the years steel bars, steel fibers and other materials have been used as reinforcement in concrete. Use of reinforcing bars in concrete caters the need of resisting tensile loads and thereby making Reinforced Cement Concrete an excellent construction material. However, the use of heavy steel bars as reinforcement makes concrete structures heavy and difficult to handle. In order to take care of this a new concept of reinforcement has been introduced i.e. reinforcing concrete with fibers. Different types of fibers have been used over the years as reinforcement in concrete. In this experimental study, combinations of two fibers have been used as a reinforcement. One of the fibers is a natural fiber i.e. coconut fiber and other one is a synthetic fiber i.e. polypropylene fiber. Both these fibers are used in combination with a specific percentage. In the first sample 0.5% of recron fiber was used and 0.25% of coconut fiber. In second sample 0.5% recron fiber was used and 0.75% of coconut fiber. The fiber reinforced concrete was then tested for compressive as well as tensile strength. The test results showed 29.4% and 5.3% increase in compressive strength, 32.3% and 48.9% increase in split tensile strength and 40% and 80% increase in the flexural strength of concrete for both combinations respectively. Thus, making the concrete light weight and more resistant to cracking. This could be very useful in case of concrete pavements and slabs.

Keyword: Polypropylene, Coconut Fiber, Compressive Strength, Tensile Strength, Split Tensile Strength, Flexural Strength.

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Authors: **Puneet Matapurkar, Saurabh Shrivastava**

Paper Title: **Applications of FP-Growth and Apriori Algorithm for Mining Fuzzified Spatial Dataset**

Abstract:Spatial data, also called geospatial data, is term needed to describe data linked to or containing knowledgeable data about a particular location on Earth's surface. Spatial data mining's primary goal is to uncover hidden complicated information from spatial & non-spatial information in spite of their enormous quantity and find the spatial relations density. Spatial Data Mining techniques, however, continue to be an expansion of individuals utilized in standard data mining. Spatial Data is an extremely challenging area since enormous quantities of spatial data have been obtained from the remote sensed to the GIS (Geographic Information Systems), ecological estimation, computer cartography, planning and many more. In a given paper, we only focus on an essential type of spatial vagueness termed as spatial fuzziness. Spatial fuzziness intakes the property of several spatial objects in certainty which don't contain boundaries of sharp type and interiors or whose boundaries as well as interiors can't be determined in precise form. This paper provides the method for finding fuzzy spatial data of association rule. Association rules provided valuable data in the assessment of important correlations observed in big databases. Compared to the previous research work, the current approach for there search highlights the superiority over the same dataset in terms of time taken and generated rules. The rules generated tell about the occurrence of attributes. The results show that the current research is more efficient than that of the previous work and also less time-consuming.

Keyword: Data Mining, Spatial Data Mining (SDM), Association Rule Mining (ARM), Apriori, FP-Growth, Spatial Data, Fire Data.

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Authors: **Satyaranjan Jena, Pradeep Kumar Sahu, Neha Tiwary, Chinmoy kumar Panigrahi, Gitanjali Dei**

Paper Title: **Improvement in Switching Strategy for Grid Connected Pulse Width Modulated Voltage Source Inverter**

Abstract:A comparison between single band hysteresis current controller and double band hysteresis current controller for a single phase grid integrated pulse width modulated VSI is highlighted in this paper. Disadvantages of the HCC like incapability of using zero output state and bipolar nature of output voltage can be overcome by using double band hysteresis current controller. The output of double band controller (DBC) switches between +VDC and zero or -VDC and zero voltage levels resulting in unipolar nature output voltage which is better than the bipolar one in terms of the harmonic content and output current ripple. It also achieves the zero state output voltage and the switching frequency is also reduces in case of DBC. The studied system is modeled and MATLAB/Simulink environment.

Keyword: Voltage Source Inverter (VSI), Hysteresis Current Controller, Doubble Band Controller (DBC), Switching frequency, Harmonic Distortion, Pulse Width Modulation.

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Authors: **Zuriati Janin, Hazilah Mad Kaidi, Robiah Ahmad**

Paper Title: **Transient Response of Glycerin Heating Process**

Abstract:Controlling the temperature of the glycerin purification process system was not an easy task, as an increase in operating temperature would significantly reduce the quality of the purified glycerin. This is because an unlimited increase in temperature beyond the set point and an excessive prolongation of the heating process would result in the formation of an excessive secondary oxidation product in the final purified glycerin. This paper

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discusses the transient response characteristics of the glycerin heating process using a parallel PID controller. The glycerin heating process behavior was determined experimentally using step input test and modelled as the First Order plus Delay Time. The controller parameters wereadjusted using Ziegler-Nichols, Cohen-Coon and Wang tuning methods, each of which was analyzed on the basis of the corresponding integral error criterion value. The Integral Square Error, Integral Absolute Error and Integral Time-weighted Absolute Error criteria value were used to evaluate the efficiency of the glycerin heating process. The transient response performances in terms of overshoot, rise time and settling time were also evaluated. Simulation work has shown that the process has experienced high overshoots for Ziegler-Nichols and Cohen-Coon, and has taken longer time to settle. Wang method exhibits with no overshoot but slow response. The lower gain PID controller was found to improve the process response in terms of overshoot but increase in the rise time and settling time. The results indicate that the desired process performance were more or less influenced by the interaction between the tuning parameters. The Ziegler-Nichols PID controller is not recommended for controlling glycerin heating process due to process response oscillations that are difficult to eliminate without prolonging the heating cycle.

Keyword: Glycerin, Integral Error Criterion, PID Controller, Transient Response

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Authors:	**Neelam Singh, Devesh Pratap Singh, Bhasker Pant**	
Paper Title:	**Big Data Knowledge Discovery Platforms: A 360 Degree Perspective**	

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Abstract:Big Datais a buzzword affecting nearly every domain and providing different set new opportunity for the development of knowledge discovery process. Although it comes with challengeslike abundance, extensiveness and diversity, timeliness and dynamism, messiness and vagueness, and with an uncertainty as all the data generated does not relates to any specific question and can be associated with another process or activity. To address these challenges are certainly cannot be handled by the traditional infrastructure, platforms and frameworks. New analytical techniques and high performance computing architecture came into picture to handle this explosion. These platforms and architecture are giving a cutting edge to the Big Data Knowledge Discovery process by using Artificial Intelligence, Machine Learning and Expert systems. This study encompasses a comprehensive review of Big Data analytical platforms and frameworks with their comparative analysis. A Knowledge Discovery architecture for Big Data Analytics is also proposed while considering the fundamental aspect of gaining insights from Big Data sets and focus of this analysis is to provide the open challenges associated with these techniques and future research directions.

Keyword: Big Data, Knowledge Discovery, Artificial Intelligence, Expert Systems.

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Authors: **Hasan Mujtaba, Gajendra Singh, Pallavi Gupta**

Paper Title: **Safe Path Planning of Mobile Robot in a known Dynamic Environment**

Abstract:Path planning in mobile robot navigation is an advanced method of calculating the safe and obstacle free path in static and dynamic environments are involved between source point to destination. Real time path planning method defines that how a robot can make a decision when some unknown obstacle gets encountered in the path of navigation for a dynamic situation. At the point when an obstruction comes in the way of route, the robot must

choose another and safe way to advance towards the objective by evading any impact. This study is focused on exploring the algorithm that gives the safe and shortest path when an obstacle changes the environment. By using A* algorithm in MATLAB simulation the probability of collision with obstacle and robot get increased. In this simulation work a new approach of path planning has been found by placing the virtual obstacles in the environment. A new obstacle get influence in the path of navigation, using virtual obstacle boundary around the new obstacle a short and safe path get evaluated which is collision free or low risk path . The purpose for this paper is to create a dependable and smooth direction in a real time domain with impediments and to manage the robot towards the target without hitting the obstacles also considering the size of the robot.

Keyword: Safe navigation, A* algorithm, Path planning, Virtual obstacles.

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Authors:	**K. Prashanth Reddy, Bhramara Panitapu, Ramesh Chilukuri, R. Karthikeyan, A. Kalyan Kumar**
Paper Title:	**Optimization of Heat Transfer Coefficient for Al2O3 (75%) – CuO (25%) / Water Hybrid Nanofluid using Taguchi**

Abstract: To have the maximum benefits of nanofluid for high heat transfer coefficient, like hybrid composite materials in the material's revolution, the hybrid nanofluid was prepared and its performance was realized by experimentation. In this investigation, the prepared Al2O3 (75%)– CuO (25%) / Water hybrid nanofluid was used as a coolant for making pen barrel in injection molding machine. For experimentation, the three process parameters viz., Volume Fraction (VF), Volume Flow Rate (VFR) and Temperature (Temp) were controlled and optimized by using Taguchi's L9 orthogonal array to yield the maximum heat transfer coefficient. To optimize it, total nine different experiments were conducted by controlling these factors. The considered all three parameters were kept three levels. Regression equation was established to predict heat transfer coefficient by incorporating independently controllable process parameters. Based on the optimization result, it was found that the high heat transfer coefficient was achieved at 0.2 %, 6 LPM and 35 °C of VF, VFR and Temp of hybrid nanofluid respectively.

Keyword: Al2O3- CuO, hybrid nanofluid, heat transfer coefficient, optimization

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Authors: **G. Raja Vikram, K. Shahu Chatrapati, A. V. N. Krishna**

Paper Title: **A Secured and Scalable Battle-Field Surveillance using WSN Multicasting**

Abstract:Real-time Battle-field surveillance using Wireless Sensor Network (WSN) is a challenging task. It demands periodic sensing, run-time decision making, and fast signal processing and high data precision. WSN for battle-field monitoring is a collection of in-expensive sensor devices capable of sensing sound and signals generated by objects. An Efficient utilization of limited resources is need of the hour in these applications. Sensor nodes must be highly dynamic in sensing and sending accurate data securely to the control centre. In this paper, The authors propose a secured and scalable mechanism to sense war field and report any intruder movement with accuracy. The Proposed approach performs better in terms of network lifetime, security and accuracy.

Keyword: Wireless Sensor Network (WSN), Battle-field Surveillance, WSN Applications, WSN Multicasting, WSN Coverage.

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Authors: **Dhanabal Rengasamy, Ramakrishnan V. N.**

Paper Title: **High Performance Energy Efficient Computation Elements of Processing Unit**

Abstract:in our manuscript, various circuits for arithmetic summation are compared. Cadence 90nm technology and Quartus II EP2C20F484C7 are used for implementation of design. Logic gate-based adders, PFCA, TG and HSD technique-based adders characteristics are analyzed. Y finding is PFCA with 10T transistor performs slightly efficient compare to its counterpart. Exclusive OR-NOR design is optimum for least delay Adders for high performance energy efficient processing unit.

Keyword: Adders, Multipliers, Power Dissipation, Delay.

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418.	**Authors:**	**Rupali Patil, Avinash Desai**
	Paper Title:	**Performance Analysis of Latent Heat Thermal Energy Storage using Phase Changing Material in a Circular Orientation.**

Abstract:The enormous consumption of energy has led to the fact of saving it at large. To negate the loss of energy, the present work commences research in the field of Thermal Energy Storage in its latent form incorporating Phase Changing Material (PCM) in circular oriented copper Ball Structure. Heating of PCM (by an electric heater) inferred in these copper balls continues till 85˚C(well beyond the melting point of selected PCM), and then when disconnected, PCM discharges gradually giving off the heat accumulated within. Considering 30litres of water in Latent Heat Thermal Energy Storage Tank(LHTES), for a family of four, the research intends to investigate the prolonged duration of time required to keep the water warm. The consequence presents that the time required to charge(heat) water is 4.6 hours(270minutes) and discharge(heat is given off) is 29hours(1740 minutes). Thus proving significant potential in keeping water warm for better performance in a circular orientation.

Keyword: Phase Changing Material, Latent Heat Thermal Energy Storage, Charging, Discharging.

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419.	**Authors:**	**S. Madhupriya, R. V. Maheswari, B. Vigneshwaran**
	Paper Title:	**Measurement and Denoising of Partial Discharge Signal in High Voltage Cables using Wavelet Transform**

Abstract:A huge amount of exploration propagated over the past decade investigates the characterization of Partial Discharge (PD) inception in cable ideology. Underground cables are passed down as surrogate for over hauling in congested areas. The intention of this research is to examine the feasibility of exploring insulation defects present in High Voltage (HV) Cable setup by employing PD disclosure under alternating current (AC) Voltage. Study of PD characteristics has a congregate of predictable distinguished contraption to prove the probity and the affirmation of electrical insulation of Power System. In this work, the cable is exposed into the measurement of PD signal under artificially conceived defects. PD signal parameters are mainly depends on the size of void and

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applied voltage. In general, the measured PD signal is depraved with interferences. To identify the exact characteristics of PD distinctive and its severity, the PD signal is subjected to Wavelet Transform (WT) for denoising. Different types of WT families with various level is used for de-noising. To identify the effectiveness of the WT for de-noising guidelines like Signal to Reconstruction Error Ratio (SRER) and Reduction in Noise Level (RNL) are used.

Keyword: Partial discharge, Wavelet transform, Signal to Reconstruction Error Ratio (SRER) and Reduction in Noise Level (RNL)

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Authors: **Dhilip Kumar R. G., Divya M.**

Paper Title: **Behaviour of Exoskeleton Structures under Wind Loading**

Abstract:Tall buildings structural system has evolved a lot in recent times. Nowadays, a new system is being in the building as two parts namely exterior system and interior core. The exterior system will be located in the perimeter of the structure whereas the inner core located at the center which mainly accounts for the transfer of gravity load and the exterior system takes care of lateral loads rather than gravity load. The exterior shell is nothing but a diagonal grid which are effective as both gravity and lateral support to the tall buildings and this structural system is named as Exoskeleton. This exoskeleton diagrid structures imparts greater stiffness and lateral stability to the slender tall buildings. The objective of this study is to obtain a shape efficient lateral load resisting exoskeletal system using diagrid elements. Hence, the steel exoskeleton structures are analysed separately for both wind and seismic loads using ETABS 2015. 72-story structure with plan area of 2500 m2 adopted with different base plan (octagonal, rectangular and triangular shapes) with aspect ratio less than 5 has analyzed and designed. Gust factor method is adopted for wind loading since the tall structure undergoes vibration for various acceleration of the wind. The Gusts factor various from 1.19 to 2.11 in the design. Several analytical studies were conducted for different base plan with various diagrid angles and then this paper focus on obtaining a shape effective structure with optimal diagrid angles say 55.5, 65.7, 77.8 degree under adverse loading condition. Moreover, this work is done by considering following parameters say interstory drift, shear absorbing performance, the behaviour of inner core and outer shell.

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Keyword: Aspect Ratio, Base shear, Diagrid Structure, Gust factor method, Story drift.

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Authors: **Sangeetha Muthiah, A. Senthilrajan**

Paper Title: **Agro Image De-Noising (Aid) for Enhanced Agricultural Images**

Abstract:Several Noises may be present in acquired images. This is an undesired feature for image processing techniques that analyze these images. Image de-noising helps improve efficiency of image processing. Many image de-noising methods have been proposed and exist in literature. Image de-noising methods for agricultural images have been proposed to a lesser extent when compared to the bright medical or photographic images. This paper proposes Agricultural Image De-noising (AID) which uses a discrete wavelet transform (DWT) to eliminate noise in agricultural images. This study uses specific kind of wavelet family spline wavelet transforms with appropriate decomposition level and the wavelet coefficients are analysed with hard and soft threshold methods. The denoised image using various spline wavelets is compared of hard threshold and soft threshold are assessed. The performance of AID is calculated using the peak signal to noise ratio (PSNR) and signal to noise ratio (SNR).

Keyword: Agricultural Image De-noising, DWT, Spline wavelet

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Authors: **S. Anandh, R. Vasuki, Raid Al Baradie**

Paper Title: **Abdominal Aortic ANEURYSM Identification Using HLSFMM Segmentation and SVM Classifier**

Abstract:The localized inflammation of the abdominal aorta region causes Abdominal Aortic Aneurysm (AAA). The width of the lumen enlarges its size 3 cm or more than half of its diameter, which is larger than the typical diameter. There is no symptom until it becomes ruptured, which may often results in death. In this paper, a hybrid level set technique is presented to detect and segment the image taken from MRI of abdominal aortic aneurysm region. In traditional level set technique re-initialization problems are high. This problem is completely eradicated in the Hybrid Level Set Fast Marching method (HLSFMM). Median filter diminishes the noise in the image efficiently when compared to standard SVM classifier which uses Gaussian RBF kernel operator as a diameter measure by incorporating spatial data. Finally HLSFMM is utilized to extract source boundary in pre segmentation stage. The precision and the orderliness of the proposed method are extracted for different noisy MRI AAA images. Compared this result with other methods, the proposed system is much proficient for images with noises and accurate segmentations results are attained.

Keyword: Abdominal Aortic Aneurysm, Median filter, HLSFMM segmentation, SVM Classifier.

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423.	**Authors:**	**Mahesh Kumar Reddy Vennapusa, Suchart Yammen**	
	Paper Title:	**Air Flow Control of a Smart Electric Fan using IoT Solutions**	
	Abstract:Remote control of electric fans by the application of IoT technology addresses the restrictions of "push button" controls that are usual in conventional fans. This paper explains a new control method for air flow control of a Smart Electric Fan (SEF), in this case fans mainly used in the household. In this new method the supply voltage that is applied to the motor terminals of the SEF is precisely changed with the mobile application developed by using IoT solutions. As this proposed method integrates with the conventional control methods referred to as the Firing Angle Control method or Phase Angle Control method with a new IoT-based solution, the controlling of any device becomes simpler. We developed a mobile application that enables the fan to be remotely controlled using a smartphone or tablet computer. The phase or delay angle of the voltage waveform is changed by giving as an input from the smart phone mobile application, and this results in minimizing the power loss caused due to switching in case of push button system. We demonstrated that by using this app, implementing the IoT-based solution, the air flow rate of the SEF was increased and the performance of the SEF exceeded the air flow rate of the original, conventionally controlled fan with the speed of the fan being significantly increased. Applying this control method has thus been verified to be advantageous and appropriate for the remote control of the air flow and fan speed, resulting in the efficient Smart Electric Fan. The main focus of this research was to implement the integrated control method in the residential fans.	**2487-2492**

Keyword: Air Flow Control, Internet of Things, Blynk/MQTT Mobile application, Smart Fan Control

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424.	**Authors:** **B. Arun, B. V. Manikandan, K. Premkumar** **Paper Title:** **Meta-Heuristic Algorithm Optimized Fuzzy PID Controlled AGC of Three Area Power System**	**2493-2499**

Abstract:The problem of automatic generation control (AGC) is a major concern in power utilities; it plays a major role of the complicated structure and dimension of the multi-area systems. Automatic Generation Control's main intention in the multi-area system is to maintain the frequency of each control area and remain the tie-line power flows within the many defined tolerance limits by modifying the Automatic Generation Control generators' actual power outputs to accommodate the changing load requirements. Frequency control is accomplished through the primary control mechanism or the governor control mechanism. But the Area Control Error (ACE) always present in the system. The secondary controllers are surmounting this ACE to zero. The design tunes the controllers to enhance the better dynamic performance and stability of these eccentric conditions. The goal of this work is to diminish area control error, settle time, under-shoots and over-shoots of frequency divergence and net interchange tie-line error. Generally the gain values of the PID Control parameters obtain by tribulation and error technique and it need additional computation time. To reduce this obscurity of tuning of PID gains Evolutionary algorithm approach can be habituated to optimize the PID gains. Fuzzy – PID have been employed with different objective to enhance the efficient optimal solutions to the three area system. In this proposed study, GWO technique used to maximize Fuzzy-based PID controller's Proportional, Integral and Derivative gains in Three Area System.

Keyword: Area Control Error (ACE), Genetic Algorithm (GA), Particle Swarm Optimization (PSO), Grey Wolf Optimization (GWO).

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425.	**Authors:**	**Ngo Hai Anh, Pham Thanh Giang**
	Paper Title:	**A Testbed System For Impact of QoS Parameter in Wireless ad Hoc Network**

Abstract:In our paper, we evaluate the impact of some QoS parameters on multimedia data in IEEE 802.11 wireless networks by deploying an experimental testbed systems. The evaluation results show that Contention Window (CW) value has a great influence on the throughput ratio between multimedia data types.

Keyword: Multimedia data, network performance, testbed, throughput, wireless ad hoc.

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	Authors:	**Musheer Vaquar, Sanjay Kumar Agarwal**
	Paper Title:	**Target Object Tracking with Portable Sensors in Wireless Sensor Network**

Abstract:Detection and tracking of moving target objects is one of the important problems of wireless sensor systems. In recent years, portability has become an important research area for the WSN community. Although it was never thought that the WSN arrangement was completely stable, portability was initially perceived as some of the difficulties that must be overcome, including network, inclusion and use of vitality. Target object dictates the accuracy of target objects with which the position of target objects can be estimated. This problem becomes a test, especially given the portability of the sensor and the target object, in which the directions of the sensor and the target object have to be captured. [1, 17] Through this review, we consider that we consider the question of following signals that release appropriate target object using compact sensors that depend on the social issue of the signal. Since the versatile movement of the lens is unclear, the portable sensor controller uses the approximation accumulated by a remote sensor so that the compact article indicates the time of appearance (TOA). [4] The portable sensor controller confirms the TOA estimation information of both compact target object and portable sensors to evaluate their areas before guiding the development of portable sensors to achieve the target object. We propose the calculation of approximation (min-max) to calculate the monitoring area, which can be effectively understood through quasi-different programming (SDP), and apply a cubic potential to the portable sensor path Can do. We measure the area of portable sensors and focus on each other to improve the following accuracy.[2, 5] We determine the characteristic relationship between several basic parameters of the frame and the trackingtarget object, including the thickness of the sensor, the range of detection, the portability of the sensor, and the target object. We examine the relationships and the ability to influence by multiple parameters of the framework and locate the base number of portable sensors that are required to maintain the tracking of target objects in an MSN. To further improve the execution of the framework, we propose a weighted monitoring calculation, using estimation information more efficiently.[3] Our entertainment results suggest that insufficiently insured calculations provide excellent follow-up that can be improved by requesting greatness with an equal number of sensors when contrasted and with the position of static sensors.

Keyword: Wireless Sensor Networks, Portable sensor, Target Object Tracking, Static Sensor

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427.	**Authors:**	**Anita V. Mithapalli, Swati S. Joshi**
	Paper Title:	**A Framework for Secure Data Storage and Retrieval in Cloud Environment**

Abstract:Plenty of research work is going on for efficient storage, processing, and analysis of large volume of data generated in real time and having varying nature and quality. The most common open-source framework for efficient computation of such large volume of data is Hadoop which processes big data sets by employing clusters of networked computers. On the other hand, cloud computing refers to storage of data and applications in cloud servers and accessing of the data of applications over the Internet following an on demand scheme. So the organizations who want to reduce costs and complexities associated with big data framework, the most suitable option for them is to take help of cloud infrastructure. But one biggest concern in this regard is the security of data and applications in cloud. Though Hadoop provides in-built encryption scheme and secured HTTP protocol, once data and applications are stored in public cloud, they become vulnerable to various security breaches still remain uncontrolled by the cloud service providers giving rise of a feeling of untrust. In this scenario, encrypting sensitive business data before cloud uploading may help in preventing access of data by evil intruders. In this paper, an extension to Hadoop security with respect to shared cloud has been proposed by designing a software framework where files are encrypted before uploading to cloud. Security performance of this framework for securing data in storage as well as in transit has been implemented such that without using the framework retrieval of data is not at all possible. Extra layer of security aided by symmetric key cryptographic technique has been proposed which will enhance the security of customers' resources along with the present standard security measures of a cloud system. A software system performs symmetric encryption before transmitting a file of any format to cloud. To access this encrypted file, the same software system has to be used to download and decrypt the file. This paper also investigates the performances of most common symmetric key techniques AES, DES and triple DES cryptography with respect to the successful encryption of the customer data. This software frameworkcan be applied to provide an extra security layer at the client's end for users availing service of the cloud platform.

Keyword: Cloud, Big Data, Hadoop Security, Symmetric key cryptography

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Authors: **Pudhari Srilatha, J. Suresh Goud, B. Raju, S. Devaraj**

Paper Title: **An Unsteady Magnetohydrodynamics Flow of Bingham Fluid with Hall Effect of Heat Transfer**

Abstract:In this paper we investigated an unsteady magnetohydrodynamics flow of Bingham fluid with Hall Effect of heat transfer. Partial differential equations are simplified to higher order differential equations. MATLAB integrated bvp4c digital solver for velocity and temperature solves a set of nonlinear ordinary differential equations. The graphs show the effect of different parameters of velocity and temperature.

Keyword: Bingham fluid, Magnetohydrodynamics, Hall Effect, Heat Transfer.

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429.

Authors: **Nandkumar S. Admile, Jagadish Hallur, Anup S.Vibhute, Akshay A.Jadhav, Vijay S.Bhong**

Paper Title: **Content Based Image Retrieval using Feature Extraction Technique**

Abstract:Now days the image processing can be used in various areas such as in Agriculture, in Health care system also for security purpose. In case of Crime investigation the image processing can be used to identify the particular suspect from an available dataset for that purpose an image retrieval technique is presented in this paper. For image retrieval number of techniques is available. In earlier days Block Truncation Coding is used but due its some disadvantage feature extraction method is used. Using DDBTC technique two features are derived. The first feature as Color Co-occurrence Features (CCF) obtained using color quantizes features such as Bit Pattern Feature (BPF) is derived from Bitmap image. The five different distance metrics are used to measure the similarity between two images. The simulated results shows proposed Technique can shows the better result in the form of Average Precision rate (APR) and Average Recall Rate (ARR) as compared to other techniques.

Keyword: Average Recall Rate Average Precision Rate, Bit pattern feature, color co-occurrence feature, Dot diffused block truncation coding.

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DOI: 10.1109/CESYS.2018.8724097, INSPEC Accession Number: 18723995

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Authors: **N.P.Saravanan, T.Kumaravel**

Paper Title: **An efficient Task Scheduling Algorithm using Modified Whale Optimization Algorithm in Cloud Computing**

Abstract:Cloud computing brings computing resources such as software and hardware, it serve service to the users through a network. Major concept of cloud computing is to share the marvellous storage section. In cloud computing, the user jobs are prepared and executed with appropriate resources to successfully deliver the services. There are large amount of task allocation techniques that are used to accomplish task planning. In order to improve the task scheduling technique, so we proposed method of efficient task scheduling algorithm. Optimization techniques are solving NP-hard problems is very famous. In this proposed technique, user tasks are stored in the order of queue methods. The priority is designed and allocated suitable resources for the task. New tasks are investigated and kept in the on-demand priority of queue. The output of the on-demand queue is given to the MWOA. It has been proved that this algorithm is capable to eliminate optimization problems and outperform the current algorithms. The method is proposed to the required more number of iterations is reduced. The proposed algorithm is compared with various scheduling algorithms such as, genetic algorithm, ant colony, standard grey wolf optimization and particle swarm optimization. The outcomes of tests indicate the better efficiency of the MWOA in expressions of makespan and energy consumption.

Keyword: In cloud computing, the user jobs are prepared and executed with appropriate resources to successfully deliver the services.

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431.	**Authors:**	**Neelam Rawat, J.S. Sodhi, Rajesh K. Tyagi**	
	Paper Title:	**Scene Illustration of Terrestrial Animals with Its Monitoring, Tracking and Recognizing Through Deep Learning in Relation with Granular Computing**	
	Abstract:Combining Deep Learning Technique with Granular Computing employs an inductive paradigm for the terrestrial animal's elucidation. The proposed method frames the object (terrestrial animal) in arbitrary-shaped and sized granules rather than fixed and rectangular shaped, so that object can effectively mine and recognized. The goal is to present a formal model which automatically focus only on representative pixel of each granule rather than converting pixels from entire image through scanning. Thus, this work entails the process of recognizing not only the static animal in the background, but also depicts moving animal in foreground separately. **Keyword:**Granular Computing (GrC), Deep Learning, Object Recognition, Object Tracking, CNN. GPRS **References:** 1. Hu, Z., Fang, W., Gou, T., Wu, W., Hu, J., Zhou, S. and Mu, Y., 2019. A novel methodbased on a Mask 2. R-CNN model for processing dPCR images. Analytical Methods, 11(27), pp.3410-3418. 3. Hu, H., Pang, L. and Shi, Z., 2016. Image matting in the perception granular deep learning. Knowledge-Based Systems, 102, pp.51-63. 4. Lin, T.Y., 2003, May. Granular computing. In International Workshop on Rough Sets, Fuzzy Sets, Data Mining, and Granular-Soft Computing (pp. 16-24). Springer, Berlin, Heidelberg. 5. Li, Q., Qiu, Z., Yao, T., Mei, T., Rui, Y. and Luo, J., 2016, June. Action recognition by learning deep multi-granular spatio-temporal video representation. In Proceedings of the 2016 ACM on International Conference on Multimedia Retrieval (pp. 159-166). ACM. 6. Lee, S.C. and Nevatia, R., 2014. Hierarchical abnormal event detection by real time and semi-real time multi-tasking video surveillance system. Machine vision and applications, 25(1), pp.133-143. 7. Wu, Z., Yao, T., Fu, Y. and Jiang, Y.G., 2016. Deep learning for video classification and captioning. arXiv preprint arXiv:1609.06782. 8. Rawat, N., Sodhi, J.S. and Tyagi, R., Wild Life Protection by Moving Object Data Mining-Discover with Granular Computing. 9. Rawat, N., Sodhi, J.S. and Tyagi, R.K., 2014, November. An algorithmic approach for analysis of animal movement with granular computing in relation with data mining. In 2014 International Conference on Contemporary Computing and Informatics (IC3I) (pp. 224-229). IEEE. 10. Rawat, Neelam; S. SODHI, J.; K. TYAGI, Rajesh. Analysis and tracking of animal movements through granulation of temporal domain (GTD). International Journal of Engineering & Technology, [S.l.], v. 7, n. 4.5, p. 501-505, sep. 2018. ISSN 2227-524X 11. PEDRYCZ, W., 2016. SYSTEM MODELING WITH FUZZY MODELS: FUNDAMENTAL DEVELOPMENTS AND PERSPECTIVES. Iranian Journal of Fuzzy Systems, 13(7), pp.1-14. 12. Loia, V., D'Aniello, G., Gaeta, A. and Orciuoli, F., 2016. Enforcing situation awareness with granular computing: a systematic overview and new perspectives. Granular Computing, 1(2), pp.127-143. 13. Loia, V., D'Aniello, G., Gaeta, A. and Orciuoli, F., 2016. Enforcing situation awareness with granular computing: a systematic overview and new perspectives. Granular Computing, 1(2), pp.127-143. 14. Rowcliffe, J.M., Field, J., Turvey, S.T. and Carbone, C., 2008. Estimating animal density using camera traps without the need for individual recognition. Journal of Applied Ecology, 45(4), pp.1228-1236. 15. Stern, U., He, R. and Yang, C.H., 2015. Analyzing animal behavior via classifying each video frame using convolutional neural networks. Scientific reports, 5, p.14351. 16. Torney, C.J., Lloyd-Jones, D.J., Chevallier, M., Moyer, D.C., Maliti, H.T., Mwita, M., Kohi, E.M. and Hopcraft, G.C., 2019. A comparison of deep learning and citizen science techniques for counting wildlife in aerial survey images. Methods in Ecology and Evolution, 10(6), pp.779-787. 17. Wang, X., Wang, H., Niu, S. and Zhang, J., 2019. Detection and localization of image forgeries using improved mask regional convolutional neural network. 18. Yao, Y.Y., 1998. A comparative study of fuzzy sets and rough sets. Information sciences, 109(1-4), pp.227-242. 19. Zhao, S., Liu, Y., Han, Y., Hong, R., Hu, Q. and Tian, Q., 2017. Pooling the convolutional layers in deep convnets for video action recognition. IEEE Transactions on Circuits and Systems for Video Technology, 28(8), pp.1839-1849. 20. Zeng, M., Nguyen, L.T., Yu, B., Mengshoel, O.J., Zhu, J., Wu, P. and Zhang, J., 2014, November. Convolutional neural networks for human activity recognition using mobile sensors. In 6th International Conference on Mobile Computing, Applications and Services (pp. 197-205). IEEE.	**2538-2543**
432.	**Authors:**	**Kunyanuth Kularbphettong, Ausanee Singkoo, Phanu Waraporn**	
	Paper Title:	**The Effect of the Smart Navigation System Based on Augmented Reality**	
	Abstract:Currently, virtual technology is applied to everyday life. AR (Augmented Reality) has widely become a challenger technology that brings virtual 3D images into the real world through a camera. Augmented Reality is a technology that brings virtual images that is a 3D model simulated into the real world through cameras and processing that brings objects to overlap into one image and AR can help people to understand the content easily. Hence, in increasing the efficiency of services and publicizing various information, this paper presents the smart navigation system using augmented reality based on a smartphone in the case study of Benjakitti Park, Thailand. The application can navigate users to the POI destination and the system based on mobile devices is composed of two parts: the navigation application and the bone collector game. This project produced user satisfaction at a good level and the proposed application was ableto support the significant information for navigation in aspects of performance, usability, and effectiveness. **Keyword:**navigation system, augmented reality, smartphone, location-based. **References:** 1. Augmented reality. Retrieved November 23, 2019 https://en.wikipedia.org/wiki/Augmented_reality 2. Benjakitti Park. Retrieved November 23, 2019 https://en.wikipedia.org/wiki/Benjakitti_Park 3. John V.Pavlik and Frank Bridges. (2013). "The Emergence of Augmented Reality (AR) as a Storytelling Medium in Journalism," *Journalism & Communication Monographs*, Volume 15(1), page 4-59. 4. Harriet Mallinson. (2017). *New year, new resolution': Provocative anti-smoking billboard advert 'coughs' whenever it senses cigarette smoke*., Available: http://www.dailymail.co.uk/news/article-4102944/New-year-new-resolutionsProvocative-anti-smoking-billboard-adv	**2544-2548**

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Authors: **Nabajyoti Modak, Durlab Das, R. Vinodh Kumar**

Paper Title: **Behavior of AFRP Composite and its Practical Aspects in the Invigoration of Structural and Materialistic Properties of Corroded SHTS**

Abstract:The usage of effective composite materials currently became a regular trend in different field of industrial works and production factories. Composite materials being having a property of fulfilling more than one property simultaneously became an effective material recently in practical life. Fiber Reinforced Polymer (FRP) composite, due to its low weight, high stiffness huge load carrying capacity, corrosion less property, it became a friendly material for different engineering purposes where materials get include. In the world of Civil Engineering, Aeronautical Engineering, Mechanical Engineering and Automobile Engineering, currently the trend of FRP became very familiar for increasing the strength of materials for different properties and from different orientations. Strengthening and retrofitting of any structural elements become mandatory when the structure gets distressed due to several loading and aging effects. This research paper contains the concept of Aramid Fiber Reinforced Polymer (AFRP) composite and its application in the strengthening of corroded Steel Hollow Tubular Sections (SHTS). The improvement in the properties of SHTS after applying AFRP is discussed in this research content and its polymerization effect on strengthening. To establish a comparison on the recent research trend in this area, a special way of retrofication scheme was involved in this investigation, by following a practice of spiral or helical wrapping of AFRP to achieve a continues stiffness with a uniform unity across the height of the column. To analyze the proposed strengthening scheme, a comparative study has been done with respect to the traditional approach. A series of experimental investigation was done to come up with the result and later a brief discussion has been done regarding the usage of AFRP in different fields of Engineering. Totally 21 samples were casted both in horizontal and spiral jacketing and tested experimentally under axial compressive load by sustaining several parameters to observe the variation in the change of the properties of SHTS to verify the axial load carrying capacity along with the stiffness and Young's modulus. The experimental investigation showed that there is a remarkable improvement in the properties of AFRP strengthened specimens with respect to different parameters after the application AFRP and the effect of its polymerization with the bonding agent. Thus after the strengthening of column specimens with AFRP, the overall increment in the load ringing capacity of the SHTS was 23.27% and also the proposed scheme of spiral wrapping provided a superior result as compared to the traditional method of horizontal stripping.

Keyword:AFRP, Axial load, Buckling, Elasticity, SHTS, Stiffness, Strengthening

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Authors: **Kavitha Esther Rajakumari**

Paper Title: **A Novel Clone-Based Reuse Method to Maintain Proficiency in Software Engineering Practice**

Abstract:The source code of an application paves way for a quality software product. Quality software in-turn helps in imposing software reuse. In this paper, pieces of similar codes also known as code clones or code duplications are considered as reusable software components. In general code clones are considered harmful in software engineering practice. They are considered to degrade the quality of software. Code clones are detected and removed without further processing. In this paper, a token- based CodeClone reuse method is proposed to detect type- 1 and type-4 clones. Positive effects of clones are analyzed and beneficial clones are extracted from the cluster of clones detected. The proposed method aids in the art of developing software thereby enforcing the concept of software reuse. The working principle of the proposed method is implemented using open source software as inputs. Beneficial clones are further stored in a database for future use. Clone report is generated as it assists in knowing about the clone details within a software system.

Keyword: Code clones, software engineering, beneficial clones, software reuse.

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Authors: **L Venkata Subba Reddy**

Paper Title: **Artificial Bee Colony Based MPPT Technique for Solar PV System Under Partially Shaded Condition**

Abstract:Energy recovery circuit plays significant role in PV string, during different irradiance value condition of PV modules. The BBCSC circuit is the combination of buck-boost converter and switched capacitor circuit; used to eliminate bypass diodes. The main objectives of BBCSC circuit are energy recovery from the photovoltaic modules under different irradiance value condition of PV modules and the voltage of the PV string is maintained on the level generated. In this paper, artificial bee colony (ABC) optimization technique is implemented with MPPT algorithm for solar modules string with boost converter and energy recovery circuit; to improve maximum output power and voltage values during PSC. The main limitation in the conventional method is to track exact MPP under partially shaded condition (PSC) is not satisfactory and Sometimes takes local maxima as global maxima. To overcome this, a new proposed artificial bee colony (ABC) algorithm MPPT is implemented.

Comparative analysis has been carried out and verified between the above of state of art methods through simulation results.

To valid and verify the effectiveness of the proposed BBCSC circuit, simulation results are presented in MATLAB/Simulink software.

Keyword: Buck-boost converter(BBC), artificial bee colony (ABC), partially shaded condition(PSC), switched capacitor(SC), photovoltaic (PV), maximum power point (MPP)

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Authors: **Raj Gaurav Mishra, Ranjan Mishra, N. Prasanthi Kumari, Sushabhan ChoudhuryPiyush Kuchhal**

Paper Title: **Design and Optimization of Genetic Algorithm (GA) based High Gain and Directive CPW-Fed Slot Dipole Antenna for Wideband Applications**

Abstract:Genetic Algorithm (GA) is proposed in this paper for the design of a wide bandwidth, high gain and directive CPW-fed slot-dipole antenna. The proposed antenna is built on a FR4 substrate that is cheap and easy to produce. Genetic Algorithm is used to select parameters that reflect antenna geometry to achieve wider bandwidth and reduced return loss (parameter S11) and high gain values at resonant frequency. The antenna design shows a wide operating bandwidth of 1.4 GHz (simulated) and 1.3 GHz (measured) over the X-band, a return loss (S11) of -25.83 dB (simulated) and -23.08 (measured) and a gain and directivity of 5.61 dB (simulated) and 11.87 dB (simulated) at 10.5 GHz resonating frequencies. In this work, all simulations were performed using the ANSYS HFSS v14.0 software. A prototype antenna was produced and then characterized using VNA to validate the design. Measurement results were in good agreement with the results simulated using ANSYS HFSS.

Keyword: Antenna Optimization, CPW-fed Slot Dipole Antenna, Genetic Algorithm, High Gain, High Directivity Antenna.

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Authors: **T. Karthy, K. Ganesan**

Paper Title: **Algorithm for Multi- objective Traveling Salesman Problems based on Modified Transitive closure**

Abstract:One of the challenging facts of the Multi Objective Traveling Salesman Problem (MOTSP) is to find the best compromised solution. In this paper, we have proposed a modified transitive closure algorithm to solve MOTSP using Genetic Algorithm (GA). Modified Transitive Closure method generates all the initial solutions of each objective. By applying Genetic Algorithm (GA), compromised solutions are obtained. Numerical examples are provided to show the efficiency of the proposed algorithm for MOTSP

Keyword: Traveling salesman problem, Route Conditions, modified transitive closure method, Genetic Algorithm.

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Authors: **Aarti Kumthekar, Ramachandra Reddy G**

Paper Title: **Ensemble Learning Technique for Cloud Classification**

Abstract:Automatic cloud classification is one of the important areas of remote sensing for metrological applications. Machine learning and deep learning techniques have been used for automatic classification of the cloud type. Several pretrained models are developed using convolutional neural network (CNN), which is part of deep learning. The classification performance of pretrained networks can be further improved using ensemble methods. Ensemble learning can perform better than single learner. In this paper, we proposed two different ensemble learning techniques: ensemble of CNN and ensemble of classifier. In first approach, CNN ensemble is performed, where the features extracted by two or more CNN are combined together using single classifier. The second method is to ensemble the predictions of different classifiers produced by a single or multiple CNN. The accuracy of cloud classification of the proposed methods has improved compared to without ensemble of pretrained networks.

Keyword: Pretrained network, Cloud classification, Ensemble learning

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Authors: **Tetiana Bludova, Tetiana Halakhova, Larisa Hromozdova, Ganna Kashina, Tetiana Frolova**

Paper Title: **The System of Modern University Missions Realization in the Measurement of Three Key Components**

Abstract:Analysis of the choice of potential entrants' choice of Kyiv National Economic University named after Vadym Hetman (KNEU). We represent key influential factors of choosing KNEU named after Vadym Hetman by entrants: Motivational and Prestigious, Demographic, Geographical, Psychographic, Social. The article presents the key factors, hypotheses confirmation and segment identification of the applicants who choose university.

We build up the system of potential factors quantity of choosing KNEU by entrants on the basis of the above-mentioned hypotheses. This structured hierarchical scheme has 5 levels. Construction of the potential factors' magnitude of choosing KNEU by entrants.For building up the abovementioned potential factors quantity system of choosing KNEU by entrants it was realized the survey by questionnaire for each of the presented factors within KNEU annual survey of first-year students entitled "Motivational factors of university entrants before entering the university".

The results of the survey, which was conducted in 2007, 2011 and 2017 for each item in all levels of the hierarchical scheme, were processed. In the three-dimensional Cartesian coordinate system, it was selected the axes are, which correspond respectively to the values of specific, relevant and potential factors for choosing KNEU by entrants. We presented in geometric interpretation the potential of choosing KNEU by respondents in the form of rectangular parallelepipeds.

The modern knowledge economy requires a modern system of proficiency competencies. That's why the most successful universities focus on instruments of higher education quality, realize educational programs' modernization on the base of student-centred education philosophy and build up a new system of thesocial network in the direction of social responsibility projects and business partnership with the academic community

Keyword:innovative, forward-looking education, stakeholder, social responsibility, segment identification, Motivational and Prestigious factors, Relevant factors, potential factor, student-centred philosophy.

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440.	**Authors:** / **Paper Title:**	**Suspend**
		2596-2600
441.	**Authors:**	**T. Archana, T. Venugopal**
	Paper Title:	**Man in the Middle of Face Recognition System: using Skin Color and Template**
	Abstract:During last 10 years people are very much attracted to face recognition systems and they are very much eager to solve the issues related to face recognition system. It helped them very much in the field of electronics and uses over pattern unlocking and password entering system. There are numerous applications as for security, affectability and mystery. Detection of a face is the most significant and initial step of recognition framework. This article demonstrates a new method to face recognition system using color and template of an image. Whatever the background it may go to be, our system will detect the face, which is an important stage for face detection. The pictures utilized in this framework for Face detection are the color images, while the images used for the Face Recognition are the Gray images which are converted from color pictures. The illumination compensation technique is applied on all the images for removing the effect of light. The Red, Green, and Blue values of each pixel will be converted to YCbCr space. Based on the probability of each pixel in terms of Cb, Cr values, we extract the skin pixels from the query image,. The positive probability shows a “skin pixel”, while the negative probability shows “not a skin pixel”. Finally the face is projected. In face recognition, we used 4 templates of different sizes for Gabor image content extraction. Finally we employed the relevance feedback mechanism to retrieve the most similar images. If the user did not satisfy with the given results he can give the correct images to the system from the displayed images. Exploratory outcomes demonstrate that the demonstrated system is adequate to recognize face of a human face in a picture with an exactness of 94%. **Keyword:**Probability function, Face detection, Gabor based templates, templates extraction, Face Recognition **References:** 1. 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	Authors:	**G. Rajasekaran, M. Lakshmanan, Venkata Naga Rani Bandaru**
	Paper Title:	**A Novel Framework for Video Delivery to Handheld Devices using Cloud Environment**

Abstract:Handheld devices are responsible for most of the internet traffic nowadays. Video streaming services plays a vital role in internet traffic because of its increasing size and high definition. Even though the mobile devices are capable to store and process huge data, the limitations of resources (Power, Memory, Processing, etc.), are creating bottleneck during video delivery process. Mobile devices are heterogeneous in nature in terms of service provider, geo location, hardware and software configuration and many other aspects. It is very difficult to provide the expected service to those devices without any compensation. To maintain the trade-off among the user expectation, device configuration and service provision a novel framework is proposed here. The framework covers various aspects of streaming services like user experience, delivery and storage of the contents, consumption of power resources, network conditions etc.,. The novel framework was tested with the cloud environment, within our parametric boundary it provide smooth streaming services to the handheld devices.

Keyword: Cloud Computing, Device Heterogeneity, Quality of Experience, Streaming Services, Subjective Analysis, User Experience, Video Transcoding.

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442. — **2611-2617**

443.	**Authors:**	**C. Senthilkumar, M. Kamarasan**

	Paper Title:	**An Effective Classification of Citrus Fruits Diseases using Adaptive Gamma Correction with Deep Learning Model**	
	Abstract:In farming sector, diseases affected in plants are mainly accountable for the minimized profit that leads to financial loss. In case of plants, citrus is utilized as a main resource of nutrients namely vitamin C globally. But citrus diseases greatly affect the productivity as well as quality. In recent days, computer vision and image processing approaches are commonly applied for detecting and classifying the plant diseases. This paper presents a novel deep learning (DL) based citrus disease detection and classification model. A new DL based AlexNet architecture is employed for effective identification of diseases. The presented model involves four main processes namely pre-processing, segmentation, feature extraction, and classification. Initially, pre-processing takes place to improve the quality of the image. Then, the Otsu method is applied to segment the images. Next, Alex-Net model is applied as a feature extractor. Finally, random forest (RF) classifier is used to classify the different kinds of citrus diseases. Besides, adaptive gamma correction (AGC) model is applied to improve the contrast of the applied citrus images. A comprehensive experimentation takes place on Citrus Disease Image Gallery Dataset. The results are examined under several cases and the outcome ensured the effective characteristics of the presented AGC-A model. **Keyword:**Alex Net, Citrus disease, Deep learning, Gamma correction. **References:** 1. Malik, Z., et al., 2016. Detection and Counting of On-Tree Citrus Fruit for Crop Yield Estimation. IJACSA International Journal of Advanced Computer Science and Application. 7(5). 2. Gómez-Sanchis, J., et al., 2008. Automatic correction of the effects of the light source on spherical objects. An application to the analysis of hyperspectral images of citrus fruits. J. Food Eng. 85 (2), 191–200. 3. Omid, M., Khojastehnazhand, M., Tabatabaeefar, A., 2010. Estimating volume and mass of citrus fruits by image processing technique. J. Food Eng. 100 (2), 315–321. 4. Kumar, C., Chauhan, S., Alla, R.N., 2015. Classifications of citrus fruit using image processing-GLCM parameters. in Communications and Signal Processing (ICCSP), 2015 International Conference on IEEE. 5. Ali, H., et al., 2017. Symptom based automated detection of citrus diseases using color histogram and textural descriptors. Comput. Electron. Agric. 138, 92–104. 6. Wetterich, C.B., et al., 2016. Detection of citrus canker and Huanglongbing using fluorescence imaging spectroscopy and support vector machine technique. Appl. Optics 55 (2), 400–407. 7. Deng, X., et al., 2016. Citrus greening detection using visible spectrum imaging and CSVC. Comput. Electron. Agric. 130, 177–183. 8. Stegmayer, G., et al., 2013. Automatic recognition of quarantine citrus diseases. Expert Syst. Appl. 40 (9), 3512–3517. 9. Zhang, M., Meng, Q., 2011. Automatic citrus canker detection from leaf images captured in field. Pattern Recogn. Lett. 32 (15), 2036–2046. 10. Gavhale, K.R., Gawande, U., Hajari, K.O., 2014. Unhealthy region of citrus leaf detection using image processing techniques. in Convergence of Technology (I2CT), 2014 International Conference for IEEE. 11. Cao, G., Huang, L., Tian, H., Huang, X., Wang, Y. and Zhi, R., 2018. Contrast enhancement of brightness-distorted images by improved adaptive gamma correction. *Computers & Electrical Engineering*, *66*, pp.569-582. 12. Zhang, B. and Allebach, J.P., 2008. Adaptive bilateral filter for sharpness enhancement and noise removal. *IEEE transactions on Image Processing*, *17*(5), pp.664-678. 13. Zhang, J. and Hu, J., 2008, December. Image segmentation based on 2D Otsu method with histogram analysis. In *2008 International Conference on Computer Science and Software Engineering* (Vol. 6, pp. 105-108). IEEE. 14. Krizhevsky, A., Sutskever, I. and Hinton, G.E., 2012. Imagenet classification with deep convolutional neural networks. In *Advances in neural information processing systems* (pp. 1097-1105). 15. Breiman, L., 2001. Random forests. *Machine learning*, *45*(1), pp.5-32. 16. Citrus Diseases Image Gallery, December 20, 2017. [Online] Avaible http://idtools.org/ id/citrus/diseases/gallery.php. 17. Sharif, M., Khan, M.A., Iqbal, Z., Azam, M.F., Lali, M.I.U. and Javed, M.Y., 2018. Detection and classification of citrus diseases in agriculture based on optimized weighted segmentation and feature selection. *Computers and electronics in agriculture*, *150*, pp.220-234.	**2618-2629**
444.	**Authors:**	**Chinthapanti Bharath Sai Reddy, Shaurya Chaudhary, Saravana Kumar Kandasamy**	
	Paper Title:	**Spam, a Digital Pollution and Ways to Eradicate It**	
	Abstract:Due to the growing popularity of the microblogging and networking sites like twitter, Gmail, Facebook etc., there has been an increase in the number of spammers. Spammers on Twitter seem to be more dangerous than the mail spammers as they exploit the limitation on the characters of Twitter for their own purposes. Spammers have also become creative in framing their content to cleverly escape the classifiers. This survey is thus mainly used to discuss and analyze the recent research that had been put forth regarding the spam detection in social media sites such as Twitter. This survey analyses the papers that tackled various problems faced on Twitter and the problems faced by the methods that have already been presented before. We then compared all the methods present in the papers to see which method or combination of methods could give the best result in detecting spam. **Keyword:**Bayes methods, Classification algorithms, Clustering algorithms, Feature extraction and Machine learning algorithms. **References:** 1. Tajalizadeh, H., & Boostani, R. (2019). A Novel Stream Clustering Framework for Spam Detection in Twitter. IEEE Transactions on Computational Social Systems, 6(3), 525-534. 2. Madisetty, S., & Desarkar, M. S. (2018). A neural network-based ensemble approach for spam detection in Twitter. IEEE Transactions on Computational Social Systems, 5(4), 973-984. 3. Halawi, B., Mourad, A., Otrok, H., & Damiani, E. (2018). Few are as good as many: an Ontology-based tweet spam detection approach. IEEE Access, 6, 63890-63904. 4. Diale, M., Celik, T., & Van Der Walt, C. (2019). Unsupervised feature learning for spam email filtering. Computers & Electrical Engineering, 74, 89-104. 5. Méndez, J. R., Cotos-Yañez, T. R., & Ruano-Ordás, D. (2019). A new semantic-based feature selection method for spam filtering.	**2630-2638**

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Authors: **J. Krishnaraj, Sivakumar Ellappan, M. Anil Kumar**

Paper Title: **Additive Manufacturing of a Gorlov Helical Type Vertical Axis Wind Turbine**

Abstract:In this work, a Gorlov helical type Vertical Axis Wind turbine (VAWT) model is designed and manufactured by using one of the additive manufacturing techniques called Fused Deposition Modelling (FDM) through a 3D Printer. The VAWT was made by interpretation of the wind conditions and by selecting of the suitable Airfoil profile for the blades of the turbine based on the DMS analysis (Q-Blade is an open source software which is particularly used in designing of wind turbine blades). The CAD modelling is done on SOLIDWORKS 2017 and later converted in to a Stereolithography (STL) format file which is compatible with the 3D Printing software called CURA by Ultimaker. All the parts were manufactured on the 3D Printer and assembled together and coupled with the suitable generator for the generation of Power. This VAWT is more suitable for urban areas and can generate more power even at the lower wind speeds unlike the Horizontal Axis Wind Turbines (HAWT) which require open lands for their efficient working.

Keyword:3D Printing, Additive Manufacturing, Fused Deposition Modelling, Vertical Axis Wind Turbine.

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Authors: **Mohamed R. Masoud, Ahmed M. Ebid**

Paper Title: **Effect of Wrapping Reinforced Concrete Surface with FRP Sheets on Corrosion Resistance**

Abstract:Fiber Reinforced Plastics (FRP) sheets are widely used now in the field of repair and strengthening of reinforced concrete structures. The presence of FRP sheets on reinforced concrete surface for repair and strengthening provides some level of protection for reinforced concrete against corrosion. This kind of protection can be considered as an indirect protection because the main purpose is not for protection but for repair and strengthening. Two fibers/resin systems were considered in the experimental program; the first is glass/polyester system with one, two, and three layers of glass fibers and the second is carbon/polyester system with one layer of carbon fibers. Effectiveness of the indirect method was evaluated through comparing them with the well-known direct protection methods (coating of steel surface, coating of concrete surface, and by using concrete admixtures). A total of 16 accelerated corrosion cells were tested in order to measure the total mass loss of the reinforcing steel bars which expresses the effectiveness of all direct and indirect protection methods.

Keyword: Corrosion resistance; (FRP) wrapping sheets; indirect corrosion protection; CFRP; GFRP.

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Authors: **Lipika Nanda, Aryadhara Pradhan**

Paper Title: **A Proposed Cascaded Multilevel Inverter with R-Load at Different Carrier Frequencies**

Abstract:Cascaded multilevel inverter has the major problem as voltage imbalance across the capacitors connected in circuits which are acting like dc sources. The number of level generation depends on the number of DC sources and switches placed in cascaded multilevel inverter topology. In this proposed topology the positive levels and zero levels of the inverter have been explained. This topology also work in symmetrical condition. The topology is simulated in MATLAB and its THDs are calculated at different modulation index. The voltage stress and loss calculations are carried out at different carrier frequencies.

Keyword:THD, Switching loss, Reduced device count, Modulation index

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Authors: **P. Venkatapathi, Habibulla Khan, S. SrinivasaRao**

Paper Title: **Performance Analysis of Spectrum Sensing in Cognitive Radio under Low SNR and Noise Floor**

	Abstract:Cognitive radio (CR) is a new technology that is proposed to improve spectrum efficiency by allowing unlicensed secondary users to access the licensed frequency bands without interfering with the licensed primary users. As there are several methods available for spectrum sensing, the energy detection (ED) is more popular due to its simple implementation. However, ED is more vulnerable to the noise uncertainty so for that reason, we present a robust detector using signal to noise ratio (SNR) with dynamic threshold energy detection technique is combined with the kernel principal component analysis (KPCA) in Cognitive Radio Networks (CRN). The primary purpose of kernel function is to ensure that its dependency relies on inner-product of data without the feature space data requirement. In this paper, with the aid of kernel function the spectrum sensing with the leading eigenvector approach is modified to a feature space of higher dimensionality.By introducing of efficient detection system with dynamic threshold facility helps the better detection levels even low SNR values with quite a lot of noise uncertainty levels. The simulation results of the proposed system reveal that KPCA outperforms with that of traditional PCA in terms of false alarm rate, detector performance when tested under various uncertainties for orthogonal frequency division multiplexing signal. **Keyword:**Cognitive Radio; Energy Detection; kernel Principal Component Analysis; Spectrum sensing; Principal Component Analysis **References:** 1. Wei Zhang, Member, IEEE, Ranjan K. Mallik, Senior Member, IEEE, and Khaled Ben Letaief, Fellow, IEEE "Optimization of Cooperative Spectrum Sensing with Energy Detection in Cognitive Radio Networks", IEEE transactions on wireless communications, vol. 8, no. 12, December 2009. 2. E. D. N. FCC, "03-222," Notice of Proposed Rule Making and Order, 2003. 3. Sobron, I.; Diniz, P.S.R.; Martins, W.A.; Velez, M. Energy detection technique for adaptive spectrum sensing. IEEE Trans. Commun. 2015, 63, 617–627. 4. Matinmikko, M.; Rauma, T.; Mustonen, M.; Del Ser, J. Architecture and Approach for Obtaining Spectrum Availability Information. In Proceedings of the IEEE Vehicular Technology Conference, Yokohama, Japan, 15–18 May 2011; pp. 1–5. 5. Del Ser, J.; Alonso, A.; Gil-Lopez, S.; Garay, M.; Kretzschmar, U.; Astarloa, A. On the Design of a Heuristically Optimized Multiband Spectrum Sensing Approach for Cognitive Radio Systems. In Proceedings of the IEEE 17th International Workshop on Computer Aided Modeling and Design of Communication Links and Networks, Barcelona, Spain, 17–19 September 2012; pp. 168–169. 6. Lee, W.Y.; Akyildiz, I.F. Optimal Spectrum Sensing Framework for Cognitive Radio Networks. IEEE Trans. Commun. 2008, 7, 3845–3857. 7. Yang, M.; Li, Y.; Liu, X.; Tang, W. Cyclostationary feature detection-based spectrum sensing algorithm under complicated electromagnetic environment in cognitive radio networks. China Commun. 2015, 12, 35–44. 8. S.-Q. Liu, B.-J. H and X.-Y. Wang, "Hierarchical Cooperative Spectrum Sensing Based on Double Thresholds Energy Detection," IEEE Communications Letters, vol. 16, no. 7, (2012) July, pp. 1096- 1099. 9. S. Srinu, "Entropy based Reliable Cooperative Spectrum Sensing for Cognitive Radio Networks," Doctoral dissertation, University of Hyderabad, India, 2013 10. S. Maharjan, K. Po, and J. Takada, "Energy Detector Prototype for Cognitive Radio System," Japan, 2016.2. 11. J. Mitola and G. Q. Maguire, "Cognitive radio: making software radios more personal," IEEE Pers. Commun., vol. 6, no. 4, pp. 13–18, 1999. 12. W. Jinlong, F. Shuo, W. U. Qihui, Z. Xueqiang, and X. U. Yuhua, "Hierarchical Cognition Cycle for Cognitive Radio Networks," in Communications, China, 2015, pp. 108–121. 13. R. Tandra and A. Sahai, "SNR Walls for Signal Detection," Sel. Top. Signal Process. IEEE J., vol. 2, no. 1, pp. 4–17, 2008. 14. F. Bao, H. Chen, and L. Xie (2012) " Analysis of Primary User Emulation Attack with Motional Secondary Users in Cognitive Radio Networks", Proc. Of 2012 IEEE 23rd International Symposium on Personal, Indoor and Mobile Radio Communications - (PIMRC). 15. B. Scholkopf, A. Smola, and K. Muller, "Nonlinear component analysis as a kernel eigenvalue problem," Neural computation, vol. 10, no. 5, pp. 1299–1319, 1998. 13.	**2655-2661**
449.	**Authors:**	**Shalini Rajendra Babu, N. Ramya**
	Paper Title:	**Regular Graphs and Corona Graphs Based on Special Type of Labeling**
	Abstract:Here we consider the special type of labeling as lucky edge labeling for Regular graphs and corona graphs. **Keyword:**Corona graph, Lucky edge labeling, Regular graph. **References:** 1. Dr. Nellai Murugan.A, Maria Irudhaya Aspin Chitra.R "Lucky Edge labeling of Pn, Cn and Corona of Pn, Cn" IJSIMR PP: 710-718, 2014. 2. Dr. Nellai Murugan.A, Maria Irudhaya Aspin Chitra.R "Lucky Edge labeling of Triangular Graphs'' IJMTT-Vol.36(2)-2016. 3. Gallian J.A. "A dynamic survey of graph labeling". The electronic Journal of Combinatorics, (2012) #DS6. 4. Ramya. N, Rangarajan, Sattanathan.R "On vertex bimagic and Antimagic Labeling of regular graphs". Proceedings of ICMEB 2012,103-105. 5. Kaladevi.V and Kavitha.G "Edge-odd graceful labeling of some corona graphs". Proceedings of ICMEB2012, PP 77-79.	**2662-2664**
450.	**Authors:**	**S. Leopauline, R. Kalpana, P. Sharmila**
	Paper Title:	**Automatic Tuberculosis Screening using Chest Radiographs**
	Abstract:Tuberculosis is considered to be dreadful disease also became greater peril in many regions of the world. Demonising tuberculosis still remains a challenging process where Opportunistic infections in immune compromised HIV/AIDS patients. If it is left untreated, rate of patients with tuberculosis are huge. We have standard diagnostics methods which are not considered to be accurate.They are sluggish and un faithful. An effort towards detection of tuberculosis is made in this paper by automated approach using chest radio graphs. In this method primary step is to segment an image suing texture method and lung region is extracted using graph cut extraction method. For the above said method a set of texture and shape features are formed on the lung region to	**2665-2668**

enable the CXR,then binary classifier is used to detect normal or abnormal images. In proposed method we use Artificial Neural Networks (ANN) for screening and to identify the presence of tuberculosis

Keyword:CXR, Texture segmentation, Graph cut extraction, ANN Network, Tuberculosis.

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Authors: **Vinutha N, Sandeep S, P DeepaShenoy, Venugopal K R**

Paper Title: **Bio-medical Image Retrieval using Various Statistical Methods**

Abstract:In recent, the healthcare sectors rely more on imaging technologies for early detection and diagnosis of the disease. But, the abundant images obtained from these imaging technologies have complex disease patterns associated with them and thus an expert requires more time to analyze and arrive at the decision. Hence, the image retrieval techniques have a significant role to assist the experts by retrieving the most similar images existing in the database and also help them to compare a new scan of the patient with the top matched images and arrive at the quick decision during the diagnosis of a patient. So, we have performed our studies on the two-dimensional structural Magnetic Resonance Imaging of the Open Access Series of Imaging Studies dataset. The collected images are preprocessed and categorized into different groups based on the ventricular region of the brain. After the categorization, we employ second and higher-order statistical approaches to extract the textural features. Then the computed textural features of the images existing in the dataset are compared with the textural features of a query image to retrieve the top matched images using similarity distance as the metric. Then the image retrieval performances of the proposed hybrid based statistical methods are measured. The obtained results shows that the combined features of Gray Level Co-occurrence Matrix and Law's Texture Energy Measure attains the highest precision across the categorized groups of a dataset and it achieves 80% precision for Group1, Group2 images and 60% precision for Group3 images.

Keyword: Alzheimer's Disease, Content-based Image Retrieval, Magnetic Resonance Imaging, Statistical Methods, Textural Features, Ventricle.

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Authors: **Yedukondalu Talakonda, B. Jayachandraiah, B. Chandra Mohana Reddy**

Paper Title: **Performance Enhancement of Double Pipe Heat Exchanger with Helical Fin and Vortex Generator using CFD**

Abstract:Transferring heat from one fluid to another fluid without losing of major energy is a challenging task in the food processing and other industries. Double Pipe Heat Exchanger (DPHE) are light capacity Heat Exchangers (HE) used for air and other gas applications. In the present work an attempt is made to enhance the heat transfer of DPHE with helical fins and vortex generator. The working fluids are air and steam (water vapour) along outer and inner pipes. The parameters considered are helix angles, i.e. 350, 400, & 450 and pitch size i.e. 80 mm, 75 mm and 70 mm, and a vertex generator. CATIA V5 and Autodesk CFD are used for modelling and analysis. It is found that 400 angle helix fin 70 mm pitch along Delta Wing type (Triangular) vortex generator (VG) gives best performance.

Keyword:DPHE, Vortex generator, Autodesk CFD, Catia.

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453.

Authors: **S. Maheswari, M. Renuga Devi,**

Paper Title: **Paddy Seed Classification and Identifying Varieties using Random Assessment Classification**

Abstract:The current research work focuses in developing an accurate and efficient classification and feature extraction algorithm for paddy seed image analysis. The paddy images that are preprocessed by applying hybrid mediangaustransform algorithms were segmented using Paddysegmatch algorithm. The resultant image's features are extracted by applying the proposed enhanced rapid SURF feature extraction including various features of image. Later, the paddy seeds are classified to form different categories by applying the proposed Random Assessment Classification algorithm. Experimental results on Paddy seed real-time image analysis database show that the proposed method performs better classification accuracy compared with SVM and KNN classification algorithms.

Keyword: Feature Extraction, Classification, SURF, Random Assessment Classification.

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Authors: **P. DEERAJ, K. HARI KIRAN, M. HEMANTH VARMA, J. SIVA PRIYA**

Paper Title: **Data Analyzing Immigration to Canada using Predictive Analysis (Multiple Linear and Non-Linear Regression)**

Abstract:The immigration to Canada impacts the government in different manner like increase in population, waste, fossil fuel and it also benefits like increase economic growth, trade which will increase the GDP value of Canada, increase in workforce of country, open market, globalization, technologies and adapt to different cultures, food, and people[1]. These would result in a decrease in discrimination and aware about their rights and duties. The immigrants are more interested in entrepreneurship than others [2]. Which would impact increase in development in the country. The work explores the impact of immigration to Canada from all around the world. The top 5 countries that immigrate to Canada is analyzed by using Jupyter notebook. The prediction is done only for the top 5 countries that immigrate to Canada by analyzing the previous immigrants from 1980 - 2013. The multiple linear regression is used to analyze the data.

Keyword: Entrepreneurship, Multiple Linear Regression, Globalization, Workforce.

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Authors: **Abdulsadek Hassan Abdulsadek, Ismail Noori Mseer, Allam Hamdan, Muneer Al Mubarak, Adel M. Sarea**

Paper Title: **Factors Affecting the Adoption of Moodle in Gulf Universities**

Abstract:The study examined the Moodle system adoption by the students in three Gulf universities “Saudi Arabia, United Arab Emirates and the Kingdom of Bahrain” and examines the students' perceptions towards this system from the framework of two theories: The Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB). This study is descriptive survey research. The convenience sampling technique was adopted in the selection of 231 respondents from the sampled universities. The results revealed that the students used the Moodle system for many purposes such as doing assignments, to check upcoming events, downloading the course materials and to participate in discussions with my instructors. The results also revealed that the most impactful perceived ease of use factors: easy usage, flexibility and interaction. Finally, the study is suggested to investigate academic concerns and needs to develop the usage of Moodle in Arabian and Gulf universities.

Keyword: Adoption of Moodle in Mass Communication, Gulf Universities, Education

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456.	**Authors:**	**Asep Syarifuddin Hidayat, Muhammad Ishar Helmi, Faris Satria Alam**
	Paper Title:	**Implementation of the Contante Justitie Principle of Justice in Local Leaders Election and General Election in Indonesia**

Abstract:The Settlement of Disputes over local leaders election and general election disputes in Indonesia is currently conducted in several legal institutions . The settlement, among others, was approved by the election supervisory agency (Bawaslu) and the Civil service arbitration tribunal (PTUN). To resolve disputes over the results of the local leaders and the general election conducted by the Constitutional Court. When there is a violation on code of conduct by the election organizer is resolved by The Honorary Council of The General Election Organizer . The settlement of disputes over general election and local leader election leaves an inconsistence if related to Law number 48 of 2009 concerning Judicial Power, which leads to legal uncertaity. This paper uses the normative research method by using an agreement (statute approach) and using a case (case approach). This paper analyzes the implemantation of the Contante Justitie Principle to realize legal objectives for justice, certainty and expediency. From these considerations emerged a new statement needed in court to resolve disputes over local leaders election and general election, so that the objective of law that had been aspired to were obtained.

Keyword: Contante Justitie Principle, Regional Heads Election, and General Election, Electoral Justice.

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Authors: **Muhammad Irvan Sutroyudo, Emil Robert Kaburuan**

Paper Title: **Planning of People Management System in One of the Telecommunication Companies in Indonesia using the System Usability Scale Method**

Abstract:At this time the application for mobile applications on an industrial scale and companies are still considered very lacking for it's application, it is because the industry that is currently running is still likely to use a desktop. Which with the mobile application opportunity and understanding of technology from everyone in the company, business process automation can be done more efficiently through mobile applications. Planning of this people management system aims to resolve the problem experienced by one of the telecommunications companies in Indonesia, which at present employees find it very difficult to make requests for overtime, leave and claims, because the current system is still in desktop or manual form filling which still depends on the office network environment. Therefore, a mobile application-based People Management System (PMS) will be made in which the process will run in real time and can be done anywhere. For the initial stages of development planning Mobile applications for People Management System (PMS) will greatly help the company problems mentioned earlier. By using Heuristic Task Analysis (HTA) as a method for reviewing the effectiveness of work and activities that are not properly carried out, so it can be obtained desirable productivity (Stanton, 2006)., and the System Usability Scale (SUS) method for interface testing which is carried out directly by end users (Martoyo & Falahah,2015). Based on the provisions of the System Usability Scale score, the assessment results of 10 respondents for the People management system application of 79.0 where the score is the Acceptability Ranges in the Acceptable category and are in grade B. From these results it is felt that there is still need for further development because current planning is for the initial planning phase, there needs to be further development to improve the performance of the company and comfort for employees.

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Keyword: People Management System, Heuristic Task Analisis, System Usability Scale, HTA, SUS.

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Authors: **P. Jyotheeswari, N. Jeyanthi**

Paper Title: **An Adaptive Authentication Schemes based on the user Mobility in Medical-IoT**

Abstract:The utilization of wireless communication in the medical The utilization of wireless communication in the medical filed led to the quality life of patients. The patients who are residing in the remote areas can consult and communicate with the doctors through the health care authority. However, providing the security at the time of communication is a difficult task in medical-IoT. The researchers developed many schemes for data authentication, but every scheme has their own drawback and they are majorly concentrated on the static communication. This paper developed the different authentication mechanisms between the patient and doctor who are available in different regions. The proposed mechanism provides the authentication, anonymity, data integrity and mutual authentication. It also uses the symmetric encryption techniques to preserve the security in Medical–IoT. The performance of the authentication mechanism is tested with real time environment. The results proved that the proposed algorithm is efficient in resisting the replay attacks and preserves the anonymity, data integrity and authentication.

Keyword: Medical-IoT, Authentication, Integrity, Confidentiality, Encryption.

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Authors: **R. Thamilselvan, K. Tamil Selvi, R. R. Rajalaxmi, E. Gothai,**

Paper Title: **Multipath Routing of Elephant Flows in Data Centers Based on Software Defined Networking**

Abstract:The data center networks encompass various cloud services. Network congestion and network load imbalance may occur in data center networks due to elephant flows. In order to improve the throughput and overall utilization of the network, a dynamic load balancing mechanism has to be in place. Software Defined Networking (SDN) is used to perform the balancing of the network load. SDN can obtain the global view of the network and hence contain the status and topology of the entire data center network. The elephant flows can be split and send to multiple paths based on the current state of the network. The described idea is implemented in the OpenFlow environment and tested for improvement. The result shows the enhancement in throughput and network utilization.

Keyword: Data center, SDN, Elephant flows, Multipath

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Authors:	**K Glory Vijayaselvi, ThirumalaiSelvi R**
Paper Title:	**Tool of Automated System Armoured Scaffold to Rank Requirements through AHP**

Abstract:Requirement Engineering is really significant phase in software development life cycle. Construction of software and its functionalities is entirelygrounded on the requirements elicited for the project[6]. In this paper, we propose a tool to prioritize the requirements only with AHP bearing in mind effortless implementation for large Scale Application, Precision of result and Stakeholder's Contribution. The tool is developed in Java and SQL. This work principallyfocused on applying AHP for larger projects. The proposed framework has been assessed through an exploratory case study that has fixed number of requirements and the status after the arrival of new requirements to the priority list. This is to know about the certainty of the projected framework, which has been conducted in a software firm. Then the tool was developed for the framework and used by the company to check for the certainty of result. The deployment of the tool and the result obtained from the effort are presented.

Keyword:AHP, Tool, Requirement prioritization, Users, comparisons, priority.

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Authors:	**Sandip Kumar Singh**
Paper Title:	**Multiple Fault Detection of Rolling Bearing through Ensemble Empirical Mode Decomposition of Vibration Signal**

Abstract:Generally, two or more faults occur simultaneously in the bearings. These Compound Faults (CF) in bearing, are most difficult type of faults to detect, by any data-driven method including machine learning. Hence, it is a primary requirement to decompose the fault vibration signals logically, so that frequencies can be grouped in parts. Empirical Mode Decomposition (EMD) is one of the simplest techniques of decomposition of signals. In

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this paper we have used Ensemble Empirical Mode Decomposition (EEMD) technique for compound fault detection/identification. Ensembled Empirical Mode Decomposition is found useful, where a white noise helps to detect the bearing frequencies. The graphs show clearly the capability of EEMD to detect the multiple faults in rolling bearings.

Keyword: Compound Fault (CF), Empirical Mode Decomposition (EMD), Ensemble Empirical Mode Decomposition (EEMD), Intrinsic Mode Functions (IMF)

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Authors:	**G Manjunath Swamy, G. R. Bharath Sai Kumar, K Veeresh**
Paper Title:	**Development and Testing of Hydraulic 'Bharath Valve' to Control Multiple Actuators**

Abstract: The Research is entitled "Design, Fabrication and Performance Testing of Directional Control Valve for Control of Multiple Actuators". An indexing unit is a direction control valve used in Hydraulic system. This device shall be named 'Bharath Valve' (US10180190), as is the name of its Inventor. This valve can control more than one number of actuators. This valve consists of a hollow outer cylinder and inner cylinder. The inner cylinder fits in the hollow portion of outer cylinder; this inner cylinder is operated manually. The rotation of the inner cylinder inside the outer cylinder changes the direction of flow of liquid through the valve this control the movements of actuator. This Indexing valve can become a highly advantageous replacement of the conventional Spool valves that are used for controlling the actuator. In the present scenario one spool valve can control only one actuator thus the number spool valves used in a hydraulic system is equal to the number of actuators. However 'Bharath' valve can control more than one number of actuators, this in turn makes the number of system components less and also reduces the overall cost of hydraulic system. Even the controlling of movement of actuators can be easy. A computer interface if given can make this valve versatile and a very cheap alternative to the existing valves, taking number of components, construction, friction and efficiency into account. This research proves that 'Bharath' valve has more advantages than that of existing ones and some of the advantages are listed below,

- One valve can control more than one actuators thus reduces the number of valves.
- Construction of this indexing valve is simpler and parts involved in friction is less.
- Reduction in the cost of manufacturing is highly significant.
- This valve makes it possible to actuate the desired cylinder keeping the other at rest.
- The modification in operating actuators of system can be easily changed by operating ON/OFF flow valve connected to the inlets of Indexing valve.

Keyword: Bharath Valve, Hydraulic Indexing valve, spool valve, rotary valve, pump, motor, hydraulic actuators, efficiency etc.

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Authors: **Ermiyas Birihanu Belachew, Hailemichael Kefie Tamiru**

Paper Title: **Chronic Kidney Disease Diagnosis Model Based on Case Based Reasoning**

Abstract:Provision of health care services is still a major challenge for developing countries. To mention some of the challenges: Lack of highly qualified medical human resources, financial as well as the ability of manage and transform scare resources to meet healthcare needs. In particular, In Ethiopia health care management related to the kidney disorder suffers from the following challenges: lack of highly qualified medical human resources, financial as well as the ability to manage and transform scarce resources to meet healthcare needs.On the one hand, Artificial Intelligence (AI) helps the medical sciences. Hence, in this paper we proposed a framework for CBR system to facilitate and support the diagnosis of chronic kidney diseases with domain expert's advice. Interview and techniques have been employed on this study to acquire the necessary information required to develop intended CBR system. Finally, we evaluate the performance of the developed framework using recall and precision.

Keyword: Case basereasoning, Preprocessing, framework,Kidney disorder

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Authors: **Poonam Jaglan, Rajeshwar Dass, Manoj Duhan**

Paper Title: **ROI Selection Criteria for Finding the Abnormal Tissues from Breast Magnetic Resonance Imaging**

Abstract: The imaging methods in breast diagnostics play a preeminent role in the early detection and finding out the exact location & area of the suspicious breast tissues for malignancy. The further treatment significantly depends on the tumour-to-breast size relationship. The tumor size considered as the most influential factors for pathological/clinical assessment of breast cancer. In general, localization of the tumor's location and also the selection of a region of interest (ROI) were performed manually by an experienced radiologist. The objective of this paper is to propose an effective criterion for selection of ROI for abnormal tissues detection from breast MRI. This paper implements an efficacious ROI selection criterion for finding the exact location & area of the breast abnormal tissues from magnetic resonance imaging automatically. The proposed algorithm integrates the simple techniques like filtering, edge detection and morphological operations for inner segmentation. Outer breast region segmentation is performed by selecting the peak and valley points and then connects the selected points by

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applying fit to circle function which makes the MR image rotation invariant. The method is implemented on the 80 images contained in S1 dataset i.e. multi-parametric breast MRI dataset and the evaluation is done through comparative analysis of predicted image with manually segmented images. The experimental results in terms of evaluation matrices i.e. Precision, Recall and Score depict the efficacy of the proposed work.

Keyword: Breast MRI, Image segmentation, Region of interest.

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	Authors:	**Meenakshi Bansal, Ashok Kumar Bathla**
	Paper Title:	**Energy Efficient Data Aggregation in Wireless Sensor Networks using Mobile Sink Node**

Abstract:The wireless sensor networks consist of numerous small nodes which are also called as energy resource-constrained sensor nodes. The communication of these nodes can be done in a various way. There is also the processing of signal tasks which is done through the various computational resources provided by the networks. The energy of the sensor nodes gets consumed when transmit the data or receive data from the network. To reduce energy consumption of the network various techniques has been proposed which are known as clustering techniques. In the proposed work the mobile sink is deployed in the network which reduces overhead in the network. Experimental results shows that the proposed work outperforms the existing one in terms of reduced energy consumption of the network, increased throughput of the network, reduced delay in the network.

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Keyword: Wireless Sensor Network, Energy Consumption, Throughput, Packet delay, Mobile Sink.

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Authors: **Yadwinder Kumar**

Paper Title: **Coaxial Probe Fed Modified Sierpinski Fractal Antenna for Wireless Applications**

Abstract:A modified Sierpinski fractal antenna has been designed for wireless applications. The designed antenna exhibits multiple resonance behavior due to the basic attributes of the fractal shapes. The proposed antenna has planar, compact in size and is suitable for various wireless applications. It is designed on the Flame Retardant epoxy board substrate (FR4), which is very easily available, light in weight and has less cost. IFS (Iterated Function System) methodology is accustomed to generate the complex fractal layout using the scripting methodology (.vbs) in the HFSS simulator. Scripting method provides a straight forward solution to generate complicated fractal structures by generating code in MATLAB. The proposed antenna resonates at five different frequencies 1.859 GHz, 3.623 GHz, 5.929 GHz, 9.095 GHz and 9.547 GHz with smart values of return loss up to -26 dB. It additionally demonstrates good radiation properties and has VSWR values less than two for all resonating frequencies. Radiation characteristics are displayed by 2D and 3D radiation patterns. It also has an low profile value of Gain of 3 dB.

Keyword: Sierpinski Gasket, Fractal Antenna, Multiband, IFS, Return Loss, FR4, VSWR.

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Authors: **Anuradha Mishra, Neha Sharma**

Paper Title: **Mathematical Modelling and Tray Drying Kinetics of Loquat (Eriobotrya japonica)**

Abstract:The present study was aimed to investigate drying of loquat slices in tray dryer at different temperatures Drying was conducted at 45°C, 55 °C, and 65°C at constant air velocity of 0.5 m/s in tray dryer;time taken for drying of slices was 12 h, 10 h and 9h respectively. The analysed moisture data was fitted in four different drying mathematical models, i.e. Henderson and Pabis, Page, Logarithmic and Newton (Lewis).Statistical analysis predicted that Page model was best-fitted model for describing drying characteristics of loquat slices. Best-fitted model was selected by obtaining maximum value of regression coefficient (R2) and minimum value of chi square ($\chi 2$) and root mean square error (RSME). It was observed that shrinkage percentage was less at higher temperature as compared to the lower temperature, i.e., 45°C.

Keyword:loquat, tray drying kinetics, mathematical modelling

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468.	**Authors:**	**Mohammed Zakee Ahmed, Ajij D. Sayyad**
	Paper Title:	**Application Framework Development for Algorithm Design of PAPR Reduction in OFDM**

Abstract:Orthogonal Frequency Division Multiplexing (OFDM) is a well-built candidate for Physical Layer of 5G Communications as like it was there in 3G and 4G. With many advantages OFDM has some limitations like synchronization, Peak to Average Power Ratio (PAPR) etc. PAPR in OFDM remained the hot topic in PHY design of modern wireless communication systems since decades. Researchers are working to solve this problem with various approaches. Being one of the problem solvers team we realized that for a new researcher major effort goes into development of framework rather than actual PAPR algorithm. With this paper we tried to solve this issue by designing a simplified framework for developing, testing and measurement of PAPR of OFDM in Laboratory Virtual Instrumentation Engineering Workbench (LabVIEW) Platform. LabVIEW is a cutting edge, state of the art graphical programming environment which makes programming more simplified by adapting icons and connectors instead of text instructions, which makes computer programming language least complex, so that one can focus more on algorithm design rather than solving syntactical issues of the programming language. There are numerous applications of LabVIEW platform such as Instrumentation, image processing, digital signal processing, digital communication and many more. We have used core programming, signal processing and digital communication modules of LabVIEW for this research work. This paper has three sections, in section one, we explained need of framework, in second section we have explained detailed explanation of framework and its deployment and in the third section result and conclusion has been described..

Keyword:PAPR, OFDM, 5G, LabVIEW, NI-USRP 2922

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Authors:	**Chintan R. Mehta, Bhavik D. Nathani, Prasad D. Deshpande, Santosh C. Vora**	
Paper Title:	**Effects of Fault Current Limiters in Transient Stability Performance of Hybrid Wind Farm**	

Abstract:Low voltage ride through capability is an ability of the wind farm to stay connected with grid at the time of disturbance in the power system. The penetration of wind based renewable energy resources is increasing and the low voltage ride through consideration is vital for systems studies. The literature available demonstrates the improvement in low voltage ride through either by using fault current limiters or by implementing a control strategy for induction generator based wind farms. In this paper the low voltage ride through capability enhancement of the fixed speed induction generator is presented with various fault current limiters. The authors have presented the effects of fault current limiters in the aggregated hybrid wind farm consisting the combination of fixed speed induction generators and doubly fed induction generators which is not available in literature so far. A transient fault is simulated using PSCAD/EMTDC software in both the cases and the results are presented and discussed.

Keyword: Doubly Fed Induction Generator (DFIG), Fault Current Limiters (FCLs), Fixed Speed Induction Generators (FSIG), Low Voltage Ride Through (LVRT)

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Authors: **K. Vidya, P. Annapoorani, S. Akila, M. Vijayalakshmi**

Paper Title: **Microcontroller Based Bi-Directional DC-DC Converter for Automobile Application**

Abstract:This paper presents different topology for non isolating bi-directional dc–dc converter for automotive application. To increase and decrease the voltage level Buck-boost bidirectional converter type is used. This type of converter reduces the switching losses by using less number of switches. Also regenerative concept was introduced. During braking operation the energy stored in the motor was reduced by buck operation of the bidirectional converter and stored into the battery. This Battery will also act as the supply voltage when required. An auxiliary energy storage battery stores the regenerated energy which is obtained during the process of braking and it fed back to the electric machine in the electric vehicle applications. Auxiliary battery provides the power to the bidirectional dc-dc converter to boost the high-voltage bus during vehicle starting. To achieve power transfer between two dc power sources in either direction, the bidirectional dc-dc converters are used since it has the ability to reverse the direction of the current flow and power. This can also be used in multi port systems. In Multi-Port HEVs, two or more voltage source purposes of better performances of the vehicle are used.

Keyword:dc–dc converter, Buck-boost bidirectional converter, Auxiliary battery, Multi-Port HEVs.

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Authors: **D Ramesh Babu, Ram Deshmukh, K V Narasimha Rao, M Rajya Laxmi, Kafila, T Sabita**

Paper Title: **Awareness on Calcium Carbide Ripened Fruits and Recommendations for Toxic Free Artificial Ripening of Fruits**

Abstract:Fruit ripening using calcium carbide became a bad practice by the fruits sellers. Unfortunately calcium carbide being a low priced alternative available to the fruit traders/cold store operators/farmers, other safe methods are not practiced by the fruit producers/sellers. In spite of ban on usage of calcium carbide for the purposes of fruit ripening, several farmers and traders use calcium carbide due to its easy availability and non-awareness of its toxicity on human health. Study is conducted on awareness of these factors among the fruit consumers. About 190 literates gave the feedback, based on which recommendations made for making safe and healthy fruits available in the market for consumers. Initiatives of government of India on these aspects are also discussed. Technical details on ethylene ripening chambers and its maintenance are also presented.

Keyword: Fruit ripening, Calcium carbide, safe ripening practices, mango and banana ripening chambers, Ethylene.

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Authors: **Adlene Ebenezer, S. Karthik Vignesh, B. Sai Kishore, A. Gokul**

Paper Title: **Forward-Lane Integrity Watchdog System**

Abstract:Today there exist a lot of smart vehicles which can change lane on their own, using their sensors to detect the vehicles around them and using various neural or non-neural algorithms to detect the lane on the road. But these are inherently limited to well-structured road environment and struggle with un-structured road or damaged road. This paper aims to propose a new system, based on cloud and deep-learning neutral networks to process images from each region to train a neural network to be highly efficient in that particular region. We use "Collective wisdom" of people along with data analysis to improve the accuracy of the model.

Keyword:convolutional neural network, cloud-computing, data analysis, un-structured roads, collective wisdom

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Authors:

Paper Title: **Suspend**

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474.

Authors: **Sudha M, Usha J**

Paper Title: **Proactive Fault Tolerance Policy for Virtual Machine Management in Private Cloud Environment**

Abstract:Cloud computing being a new delivery model has many research challenges. It opens the door to great amount of innovative methods and practices. Many researchers have come-up with novel and efficient fault tolerant solutions for the cloud. With the rapid advancement in internet technology, usage of smart devices and social networking are giving rise to tremendous amount of data and demands resources like never before. Cloud

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computing delivery model provides solution to the need of the day. The recent advancement in IoT, Edge computing etc, has expanded the scope of visualizing cloud computing with a different perspective. There is a need for re-provisioning the existing components of the cloud model. Most of the research on fault tolerant algorithms, mechanisms and techniques are focused on datacenters. In this paper we propose fault detection and prevention policies for VM creation lifecycle derived from cloud computing patterns.

Keyword: Fault Tolerance, Proactive policies, patterns, Virtual Machine.

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Authors: **M. Karolin, T. Meyyappan**

Paper Title: **Image Encryption and Decryption using RSA Algorithm with Share Creation Techniques**

Abstract:visual cryptography system proposed a image encryption and decryption method. In the proposed method Red, Green, Blue color images using visual cryptography. In existing system is working for share created, it is encrypted separately by using visual secret share creation (VSS) algorithms. The proposed work is original images share1 and ahare2 created XOR-Based visual cryptography. This proposed schemes share1 encryption and share2 encryption included in RSA algorithm. The share1 and ahare2 decryption process is enable secret image sharing and then stacking. The proposed system is value calculate the PSNR and MSE formula and then image security using NPCR and UACI formula. The visual cryptography existing work to compare the proposed work and better results quality of RGB color images. The color image encryption and decryption using RSA algorithm and matlab coding.

Keyword: Image security, Share creation Method, RSA algorithm, NPCR, UACI.

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Authors: **Evgeny Bardulin, Lyudmila Zubova, Anna Yakovleva, Olga Zinisha, Lyudmila Piterskaya**

Paper Title: **Development of A Multiparameter Algorithm for Establishing the Economic Efficiency of Research**

Abstract:This article presents the results of the development of a universal multi-parameter algorithm, which consists in applying the research of the level of resistance to financial and economic risks, taking into account the stage of the life cycle of the production process and the level of production stability and technological risks. The relationship between the levels of risk tolerance of subjects from the stage of the life cycle of the production process is revealed and studied. An algorithm for taking preventive measures is proposed.

Keyword:algorithm, technological parameters, systematization of data, optimization.

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Authors: **Malathi V, Manikandan A**

Paper Title: **An Enhancement of Underwater Images using DCP and CLAHE Algorithm**

Abstract:The lack of resource requirement in this population world, we are in a position to require another resources. In this regard, ocean is one of our sustenance. It is the exact platform for various applications like, transport, food, energy etc., but still we are surveyed partly at all aspects. One of the main focus of challenge is scattering of light as it penetrate from air to water which presents us with a bluish background while studying the scenery. In this, added to this there is a hazy appearance in the visuals and calls for Image Enhancement techniques. Here, Dark Channel Prior(DCP) is used to remove the haze and noise induced by the bluish environment. However, this proposal of method is also used to increase darkness of the image, Contrast Limited Adaptive Histogram Equalization (CLAHE) is used on the RGB image to enhance the contrast and intensity of the image. Finally, we get visually pleasing result, colour correlation method is carried out. The experimental result shows that a enhanced underwater image from the base image, and mostly useful to analyze and monitoring the underwater images.

Keyword:CLAHE, Dark channel prior, Haze, Image Enhancement, RGB

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Authors: **V. S. Kirthika Devi, S. G. Srivani**

Paper Title: **A DQ Synchronous Reference Frame Current Control for Grid Connected Photovoltaic Systems using Single Phase Cascaded H Bridge Multilevel Inverter**

Abstract:This paper projects a high performance decoupled current control using a dq synchronous reference frame for single-phase inverter. For the three-phase inverter the conversion from AC to DC with Proportional Integral controller grants to obtain steady state error for AC Voltages and currents but has a few challenges with the single-phase systems. Hence, an orthogonal pair (β) is created by shifting the phase by one quarter cycle with respect to the real component (α) which is needed for the transformation from stationary to rotating frame. The synchronous reference frame control theory helps in controlling the AC voltage by using DC signal as the reference with the proportional integrator controllers. The implementation of the control is done with two-stage converter with LCL filter for a single-phase photovoltaic system. A modified MPPT Incremental conductance algorithm along with decoupled current control helps in regulating the active and reactive power infused into the grid where the power factor is improved, the efficiency of the system is increased above 95% and total harmonic distortion for current is also reduced to3%. The results have been validated using MATLAB.

Keyword: Photovoltaic(PV), boost converter, Maximum Power Point Tracking (MPPT), Maximum Power Point (MPP), Incremental conductance (IC),dq Synchronous Reference Frame (SRF), Phase Shifted Pulse Width

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Modulation (PSPWM), Phase locked loop (PLL), Total Harmonic Distortion (THD).

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479.	**Authors:**	**Pallam Reddy Venkata Subba Reddy, Sriharsha Vikruthi, E.V.N.Jyothi**	
	Paper Title:	**An Advanced Strategy of Multi User Storage System for Cloud Computing**	
	Abstract:Cloud computing is an emerging model of business computing. In cloud computing, client can use and retrieve the services anytime by using any smart devices to manage complex computing processes and to access very large data storage. The developers have recognized the required of a multi USER storage system that can help in utilizing the cloud power by enhancing its functionality and improve its performance. In this paper, proposing the architecture of advanced Multi-user storage System which primarily focuses on the price negotiation		**2823-2826**

mechanism between cloud users and providers. This system presents a perfect way for scalable and open systems that are changed dynamically. The model is based on cooperative and collaborative USERs and is managed. Also this architecture is designed to monitor the user's jobs while they are being processed.

Keyword: Fault detection module, Trust Decision Model, Virtual Cloud Environment

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Authors: **Sandeep Choudhary, Nanhay Singh**

Paper Title: **Safety Measures and Auto Detection against SQL Injection Attacks**

Abstract:The SQL injection attack (SQLIA) occurred when the attacker integrating a code of a malicious SQL query into a valid query statement via a non-valid input. As a result the relational database management system will trigger these malicious query that cause to SQL injection attack. After successful execution, it may interrupts the CIA (confidentiality, integrity and availability) of web API. The vulnerability of Web Application Programming Interface (API) is the prior concern for any programming. The Web API is mainly based of Simple Object Access Protocol (SOAP) protocol which provide its own security and Representational State Transfer (REST) is provide the architectural style to security measures form transport layer. Most of the time developers or newly programmers does not follow the standards of safe programming and forget to validate their input fields in the form. This vulnerability in the web API opens the door for the threats and it's become a cake walk for the attacker to exploit the database associated with the web API. The objective of paper is to automate the detection of SQL injection attack and secure the poorly coded web API access through large network traffic. The Snort and Moloch approaches are used to develop the hybrid model for auto detection as well as analyze the SQL injection attack for the prototype system.

Keyword: Moloch, Snort, Sqlmap, SQLIA, Threats, Web API vulnerability

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Authors: **Naveen Kumar, DhirajJha**

Paper Title: **Exergy Analysis of VCR System with Air-Cooled Condenser Working With Refrigerants R-134a & Hydrocarbon**

Abstract:This paper gives a detailed exergy analysis of a Vapour Compression Refrigeration System with the refrigerants R-134a and HC (mixture of R-290/R-600a). The aim of this paper is to find out the Exergy Analysis, Exergetic efficiency, Exergy Product, Exergy Destruction Ratio (EDR), Co-efficient of performance and 2nd law efficiency for the main components of the system such as compressor, condenser, evaporator and expansion device (throttle valve). The objective of this work is to find out an exergy analysis of the Hydrocarbon refrigerant as an alternative for R-134a. The VCRS performance using R134a will be evaluated for the effect of evaporating temperature on COP, exergetic efficiency and EDR and then compared with Hydrocarbon refrigerant. Due to prevention of GWP (Global Warming Potential), Hydrocarbon and R-134a are used as refrigerants to give better result for domestic refrigerator operation[8].

Keyword:COP, EDR, EP, Exergetic loss,Exergic efficiency, Exergy Product, Hydrocarbon and R-134a.

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Authors: **Vishnu Shankar.S, Sajidha.S.A, Nisha.V.M, Sathis kumar.B**

Paper Title: **Performance Testing in A Multi Tenant Cloud Architecture using Genetic Algorithm**

Abstract:Recent researches in cloud discusses about the application response testing, performance testing, security testing and many more, but still there is a lack of researches addressing issues like resource utilization and user interactions in cloud SaaS testing. The load on the cloud, SaaS instance keeps varying dynamically with respect to time, it is difficult to find the exact load at a particular interval of time. One does not know where to look for the solution and where to start, this made SaaS instances non deterministic in nature. In order to find a solution for such non deterministic problems, we make use of Genetic Algorithm which is considered as a good solution for non-deterministic problems.We determine the optimized resources that a cloud instance, would need to manage the dynamic load at all times. Toaddress the resource utilization of a group of users in Multi-Tenant Architecture (MTA), we adopt Genetic Algorithm which uses a popular technique, called neighborhood search and instance ranking policy. The basic concept of this paper is to explore the neighbors of an existing solution, that is considered as the solutions which can be obtained with a specific operation on the base population. In addition to that,this paper discusses about the ranking of all the available population and select the most highly ranked one. Instance ranking policies are aimed at minimizing the number of nodes in use or maximize the resources available to each node in an instance.

Keyword: Software-as-a-Service (SaaS), Virtual Machines, Cloud Multi Tenant Architecture (MTA), Genetic Algorithm (GA), Non-determinism.

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Authors: **J.Venkateshwara Rao**

Paper Title: **In Silico Molecular Modeling & Docking of Phytochemical Compounds with Odorant Binding Proteins (OBP1) of Culex Quinquefasciatus.**

Abstract: Malaria, Dengue Fever, West Nile Encephalities, Sleeping Sickness, Leishmaniasis, Japanese encephalitis (JE) are the widest large range of diseases causing highest mortality to human beings at Global level and they belong to the group Vector borne diseases (VBD). It is estimated that more than one million deaths were happening every year mostly in tropical regions of South America, Africa & Asia due to these vectors i.e., mosquitoes and mites, which are main disease transporting vectors from one host to another. A remarkable effort has been made to develop various types of insecticides and insect repellents. To control VBD, a bio-defense strategy methods have been employed which were found to be more costly and labour intensive, recurring and time consuming. A new class of repellents were made based on structure based rational approaches of ligand molecules based binding efficiencies with Odorant binding proteins (OBPs) or other olfaction inhibitory compounds with attractive characteristics.

But, with very limited knowledge available to screen photo-chemical compounds to design novel mosquito repellents employing a very high-throughput Insilco computational biology methods. Therefore, in this context, we attempted to screen out 3 phytochemicals from different plants exhibiting mosquito repellent activities reported from published literature and various public domains & molecular docking studies, aiming at the Odorant Binding Proteins of Culex quinquefasciatus. The N, N-Diethyl-m-toluamide (DEET) was widely used mosquito repellent chemical chosen as standard reference to validate the binding affinities and specificities of selected compounds aligned with Odoront Binding Proteins. A total of such 50 compounds including DEET were docked against the active site of OBT models or Crystal Structures using AutoDock. Among 5 phytochemical compounds, sum of 3 compounds have resulted in high affinity binding energies & high no of hydrogen-bonds as compared to standard reference of DEET. Among the selected Citronellol, Saponin, and Azadirachtin, are showing the highest docking scores which secure to develop more effective and safer mosquito repellents in future prospect.

Keyword: Odorant-binding protein, Phyto-chemicals, DEET, Azadirachtin.

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484.	**Authors:**	**V.Kumaresan, R.Nagarajan**	
	Paper Title:	**Performance Exploration on Various Document Clustering Techniques with K-Means Family**	
	Abstract:Clustering performs a important position in numerous fields which include Computer science & packages, facts, pattern reputation, system studying technique and find out dating among the files. Clustering focuses on document clustering, and other related area. Increase within the extent of statistics saved in virtual form (text, photograph, audio) has improved the need for requirement of an automated tool, that allows people to find and manage the records in an efficient way. Usually clustering refer to document clustering technique investigates the documents and find its relation. This paper center of attention on the a range of clustering methods and evaluation its overall performance. This paper also categories the document clustering techniques as three major groups, namely Group K-means, Expectation Maximization and Semantic-based techniques (Hybrid method). Several experiments were conducted to analyse the performance accuracy and Speed. **Keyword**: K means, K*, Hybrid, data set, bisection. **References:** 1. Balabantaray , Rakesh Chandra, Chandrali Sarma, and Monica Jha , " Document clump victimisation K-Means and K-Medoids." arXiv preprint arXiv:1502.07938,2015. 2. Boley, D., "Principal direction dissentious partitioning. data processing and data Discovery",1998, 2(4), 325–344. 3. BOTTOU, L. and BENGIO, Y, Convergence properties of the K-means algorithms. In Tesauro, G. and Touretzky, D. (Eds.) Advances in Neural information science Systems seven,1995,585-592, The Massachusetts Institute of Technology Press, Cambridge, MA. 4. Duda, R. O., Hart, P. E., & Stork, D. G., "Pattern classification". New York: Wiley,2001. 5. Fisher, D., "unvaried optimisation and simplification of hierarchical clustering's". Journal of computing analysis,1996, 4, 147–180. 6. Jain, A. K., & Dubes, R. C., "Algorithms for clump knowledge". Englewood Cliffs, NJ: Prentice-Hall.1998. 7. Karypis, G., C luto: "A clump toolkit. Technical report 02-017", Department of engineering, University of North Star State. out there at http://www.cs.umn.edu/~cluto,2002. 8. King, B., "Step-wise clump procedures. Journal of the yank applied math Association", 1967, 69, 86–101. 9. MacQueen, J. (1967). "Some strategies for classification and analysis of variable observations". In Proceedings of the fifth conference on mathematical statistics and chance , Berkeley, CA: University of Calif. Press,1967, pp. 281–297 10. K.Popat et al, "Review and Comparative Study of clump Techniques". (IJCSIT) International Journal of engineering and data Technologies, Vol. 5 (1) ,2014, 805-812. 11. U.S. Patki, Dr. P.G. Khot, "A Literature Review on Text Document clump Algorithms employed in Text Mining", Journal of Engineering Computers & Applied Sciences (JECAS) ,2017, 6(10), 1552-1564. 12. Twinkle Svadas, Jasmin Jha, "Document Cluster Mining on Text Documents", International Journal of engineering and Mobile Computing, ISSN 2320–088X, Vol.4 Issue.6, 2015,pg. 778-782. 13. TREC: Text REtrieval Conference. http://trec.nist.gov. 14. TREC: "Text REtrieval Conference connexion judgments". http://trec.nist.gov/data/qrels_eng/index.html. 15. Worarat Krathu, Praisan Padungweang, and Chakarida Nukoolkit , "Data processing Approach for Automatic Discovering Success Factors Relationship Statements fully Text Articles", proceedings of the eighth International Conference on Advanced procedure Intelligence Chiang Mai, Thailand, 2016, 14-16. 16. Yogapreethi.N,Maheswari.S, "A Review On Text Mining In data processing", International journal on soft computing (IJSC), 2016, 7(3), 145-160. 17. Zhang, S. and Pan, X., "A completely unique text classification supported Mahalanobis distance", third International Conference on pc analysis and Development (ICCRD), 2011,Pp. 156-158.	**2852-2857**
485.	**Authors:**	**Rudra Kalyan Nayak, S.Y.H. Pavitra, Ramamani Tripathy, K. Prathyusha**	
	Paper Title:	**Forecasting Foreign Currency Exchange Price using Long Short-Term Memory with K-Nearest Neighbor Method**	
	Abstract:With the growing population in the world, economic stability varies day by day. In case of India all banking transaction rules and regulations are taken by Reserve bank of India (RBI) whereas for other countries it is different. Therefore numerous academicians have projected their research on forecasting the currency exchange rate for diverse countryside. Foreign currency exchange rate prediction is a very pivotal task for international market. Hence researchers have explored different methods for predicting foreign currency exchange rate. In this work, we have taken Indian rupees (INR) with two different country's data set such as Japanese yen (JPY) andChinese Yuan (CNY)for daily, weekly and monthlyprediction beforehand. We implemented a hybrid model oflong short-term memory (LSTM) with K-nearest neighbour (KNN) which gives better opening price prediction accuracy on our dataset. The accuracy of the prediction results are measured by the help of performance standards such as mean absolute percentage error (MAPE) and root mean square error (RMSE). **Keyword:**Currency exchange rate, LSTM, KNN, RBI. **References:** 1. Tenti, Paolo. "Forecasting foreign exchange rates using recurrent neural networks." Applied Artificial Intelligence 10.6 (1996): 567-582. 2. Yao, Jingtao, and Chew Lim Tan. "A case study on using neural networks to perform technical forecasting of forex." Neurocomputing 34.1-4 (2000): 79-98. 3. Chen, An-Sing, and Mark T. Leung. "Regression neural network for error correction in foreign exchange forecasting and trading." Computers & Operations Research 31.7 (2004): 1049-1068. 4. Leigh, William, Ross Hightower, and Naval Modani. "Forecasting the New York stock exchange composite index with past price and interest rate on condition of volume spike." Expert Systems with Applications 28.1 (2005): 1-8. 5. Leu, Yungho, Chien-Pang Lee, and Yie-ZuJou. "A distance-based fuzzy time series model for exchange rates forecasting." Expert Systems with Applications 36.4 (2009): 8107-8114. 6. Pradhan, Rudra P., and Rajesh Kumar. "Forecasting exchange rate in India: An application of artificial neural network model." Journal of Mathematics Research 2.4 (2010): 111. 7. Pacelli, Vincenzo, VitoantonioBevilacqua, and Michele Azzollini. "An artificial neural network model to forecast exchange rates."	**2858-2863**

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Authors:	**Jayendra Kumar, Anitha Raju**	
Paper Title:	**An Adaptive Slide Window Security Method for Transaction Updation in Data Stream Mining**	

Abstract:Data steam mining has gained large interest in current research domain. Where various information's are retrieved based on the content of the context, the accuracy of the input stream with respect to its privacy is a major challenge. Windowing technique is used an effective approach in providing security measure in data stream mining. The recent develop windowing approach operates using sliding window, where anonymity is focused by different processing rules. The linear search sliding window has a constraint of search overhead and loss of generality under distributed information. In this paper, a new adaptive window approach for privacy coding in data stream mining is proposed. This presented approach is developed with the concern of minimize the search overhead and accuracy in search mining performance using adaptive window monitoring.

Keyword: Slide window approach, adaptive window coding, data stream mining.

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Authors: **K. Narayana Rao, K. Venkata Rao, Prasad Reddy PVGD**

Paper Title: **An Intrusion Detection Model Based on Deep Long Short Term Recurrent Neural Network**

Abstract:With the rapid increase of network based services and internet users on various platforms are becoming the major targets of attacks. Intrusion detection is the process of monitoring the attacks and analyzing their signs and violation of security policies which are occurring in the systems or networks. Intrusion Detection System is a prominent research area in security analysis and evaluation. In order to identify the attack type, we proposed Deep Long Short Term Memory-Recurrent Neural Network (DLSTM-RNN) method with seven optimizers and 500 epochs to train and test a dataset. Initially the data transformation, normalization are used to preprocess the data. The preprocessed train and test data is given input to the model. The bench mark NSL-KDD dataset used to train and test the model. The results are obtained for five-class classification (attack types).The model outperformed with adamax optimizer on NSL-KDD dataset. The metrics accuracy, detection rate, and false alarm rate areevaluated to ascertain the detection efficacy of the model. We compare the model to existing convolutional learning methods.

Keyword: Deep Learning, Long Short Term Memory, Optimizer, Intrusion Detection.

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Authors: **Shruti, Prabhat Kumar Singh, Anurag Ohri**

Paper Title: **Towards Developing Sustainable Smart Cities in India**

Abstract:The present paper provides a comprehensive review of frameworks for Sustainable and Smart Cities. The key findings highlight the large gap between the concept of Smart Cities and Environmental Sustainability. We recommend to improve the sustainability quotient by incorporating the use of Information and Communication Technology, thus developing Sustainable Smart Cities. In India, the stipulated guidelines regarding Smart Cities have been proposed by Ministry of Urban Development (MOUD) and 14 environmental indicators have been proposed. The extensive review of literature and the present guidelines demands an urgent need of framework for Sustainable Smart Cities in India. Moreover, the indicators selected must fulfill the criteria for smartness and sustainability. The paper concludes by suggesting a framework comprising of four steps: Indicator selection, Benchmarking, Assigning weights and development of Sustainable Smart Cities Environmental Index by the use of selected indicators. The framework developed in this order ensures the Sustainable Smart Cities appear attainable in India.

Keyword: Framework, Smart Cities, Sustainable Cities, Sustainable Smart Cities.

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Authors: **D. Prasad**

Paper Title: **Improving Security for Internet of Things Devices using Software Defined Networking**

Abstract:This theory has recently been expanded to IEEE 802.15.4 wireless networks, which constitute a key element of the Internet of Things (IoT). Nonetheless, the various patterns of traffic needed for SDN management make it difficult to adapt this method to these extremely demanding situations. Software-Defined Networking (SDN) key contribution of this work is the solution to network with IoT devices that enables network because of better functionalities in case of providing interfacesfor the layers. SDN enables significant advantages of

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applications to be created on the basis of interaction with traffic networks, trustable authentication, or service eminence. This report suggests the use of a SDN gateway as a decentralized platform to track traffic from IoT gadgets. The configured SDN gateway capable of detection the possible abnormal behaviors and provide it particularly valuable applicability for (obstructive, transmission or application of providing best services to the system).

Keyword: IoT, SDN, Security, Cyber Physical Systems

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490.	**Authors:**	**Jay Teraiya, Apurva Shah**
	Paper Title:	**Hybrid Scheduler (S_LST) for Soft Real-Time System based on Static and Dynamic Algorithm**

Abstract:In the Soft Real-Time System scheduling process with the processor is a critical task. The system schedules the processes on a processor in a time interval, and hence the processes get chance to executes on the processor. Priority-driven scheduling algorithms are sub-categorized into mainly two categories called Static Priority and Dynamic Priority Scheduler. Critical Analysis of more static and dynamic priority scheduling algorithms have been discussed in this paper. This paper has covered the static priority algorithms like Rate Monotonic (RM) and Shortest Job First (SJF) and the dynamic priority algorithms like Earliest Deadline First (EDF) and Least Slack Time First (LST). These all algorithms have been analyzed with preemptive process set and this paper has considered all the process set are periodic. This paper has also proposed a hybrid approach for efficient scheduling. In a critical analysis, it has been observed that while scheduling in underload situation dynamic priority algorithms perform well and even EDF also make sure that all process will meet their deadline. However, in an overload situation, the performance of dynamic priority algorithms reduce quickly, and most of the task will miss its deadline, whereas static priority scheduling algorithms miss a few deadlines, even it is possible to schedule all processes in underload situation, whereas in an overload situation, the static algorithms perform well compared to the dynamic scheduler. This paper is proposing one Hybrid algorithm call S_LST which uses the concept of LST and SJF scheduling algorithm. This algorithm has been applied to the periodic task set, and observations are registered. We have observed the Success Ratio (SR) & Effective CPU Utilization (ECU) and compared all algorithms in the same conditions. It is noted that instead of using LST and SJF as an independent algorithm, Hybrid algorithm S_LST performs well in underload and overload scenario. Practical investigations have been led on a huge dataset. Data Set consists of the 7000+ process set, and each process set has one to nine processes and load varies between 0.5 to 5. It has been tried on 500-time unit to approve the rightness everything being equal.

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Keyword: Soft Real-Time System, RTOS, RM, SJF, LST, EDF, S_LST

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Authors: **S. Chandramohan, M. Senthilkumaran**

Paper Title: **A Self-Configurable Edge Computing for Industrial IoT**

Abstract:The proliferation of Industrial Internet of Things (IIoT) introduces the concept of a smarter production environment. The emerging technologies like software defined network (SDN), IIoT and cloud computing will bring great advancements in the modern industrial revolution called Industry 4.0. Therefore, with the rapid development of IIoT technology, the proposed work incorporates with Edge Computing (EC). The current manufacturing process and automation, computing and wireless network reaches out to headways in innovation from easy to the point where all things (devices) and machines can interface through an Internet of Everything (IoE). This paper extends the work carried out in traditional methods, by integrating the cloud layer, Automatic Guided Vehicles (AGV), Industrial Wireless networks (IWN) and Industrial robots through EC is conferred to make autonomous decision-making capabilities. EC is emerging as a significant element in the smart industry to bring legacy in the context of Industrial IoT (IIoT). Finally, our proposed framework demonstrates that the active RFID-enabled AGV and industrial robots are brought in to exploit for effective resource management under the EC-based IIoT architecture, subsequently, it improves the conveyor efficiency and overall energy consumption in the warehouse for material handling.

Keyword: IoE, Edge Computing, Industrial Robot, AGV, Active RFID and IIoT.

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Authors: **Ashish A Gaikwad, Deepali R Vora**

Paper Title: **Free Code Sharing Web Platform with Intelligent Developer Suggestion Tool**

Abstract:Due to increase in demands for websites, faster deployment requirements and complex functionality requirements, developers face the need for a centralized code repository system to store repetitive codes and a suggestion tool to help them in solving the errors and warnings they face during development. The proposed system provides a centralized database for storing repetitive code segments, errors, warnings and solutions and also a code suggestion mechanism to provide suggestions to the developer during development. The system includes a code collection system to help the user to add the codes, errors and solutions to the centralized database and an analyzer system to fetch the web-page data, errors and warnings to analyze and provide appropriate suggestions to the developer. The proposed system focuses to reduce work and development time of developers by providing code suggestions during development and also facilitate effective code reusability.

Keyword: Intelligent System, Browser extension, Analyzer system, Suggestion Tool

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Authors: **Vasujadevi Midasala, H Mani Sai Prakash, T abhilash, L Rohit**

Paper Title: **Tele-Healthcare Unit for Remote Patient Monitoring**

Abstract:Tele-health is characterized as the usage of electronic data and broadcast using telecommunication advancements to help and advance long-distance clinical medicinal services, patient and expert long-distance clinical health care, patient and professional health education, public healthmonitoring and health administration. In this research, the proposed system that uses Sensors to monitor patient's health and uses internet to alert the practitioner and family members in case of emergency. It is capable of monitoring health status of the patient at home, which is at remote location also. If system identifies any parameter is beyond the normal range temperature, the health care unit gives continuous alertation about the patients' status over Internet and also shows details of heartbeat & temperature of patient continuously using the IoT.

Keyword: Telecommunications, Tele-health, Tele-Medicine, Public Health, IoT.

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Authors: **Nazirul Muhaimin Hamzi, Mohammad Rasidi Rasani, Mohd Faizal Mat Tahir, Mohammad Hamdan Sanusi**

Paper Title: **Vibration Characteristics of Carbon Fiber Reinforced Polymer Composites under Varying Fiber Orientation Composition**

Abstract:Many engineering applications today are increasingly made of laminated composite plates. The properties of laminated composite plates can change as the laminate and fiber composition change, enabling the engineering structure and components to be customized according to the desired static or dynamic properties. Therefore, it is of interest to investigate variation in dynamic properties of composites under different fiber orientation composition to forecast their vibration response. In this study, the natural frequency and mode shape of carbon fiber-reinforced polymer composite plates were obtained numerically under varying composition of the 0°, ±45° and 90° fiber orientations. Sixteen different cases were simulated using finite element method, showing changes in the natural frequency and mode shape of carbon fiber-reinforced polymer composite plates with changes in the composition of the fiber orientation. The first five values of natural frequency and mode shape of the composite laminate were reported and analyzed using a surface regression method. In addition, the effect of the stacking sequence on the natural frequency of the composite plate having the same orientation composition was also analyzed. Comparison with previous studies showed good agreement of the present numerical modeling. Numerical results indicate potential to develop relationships to estimate modal properties based on composition of fiber orientation.

Keyword: Carbon fiber-reinforced polymer (CFRP), Natural frequency, Mode shapes, Fiber orientation, Stacking composition.

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Authors: **Amr Ibrahim, Osman Ramadan, Adel Akl**

Paper Title: **Effect of Seismic P-Waves Propagation on Circular Tunnels in Layered Ground**

Abstract:During propagation of the compression seismic P-waves, the tunnels are subjected to ovaling deformations. In cases where the soil stiffness is varying along the tunnel cross-section, tunnel lining may take sharper deformed shapes and subjected to magnified bending moments and thrust forces. This paper investigates the effect of the soil stratification on the seismic behavior of circular tunnels under P-waves loading. A 2D finite element models with time history earthquake (EQ) analysis were performed accounting for different tunnel/soil interface slippage conditions. The finite element analysis results were compared with recent analytical solution for calculating the seismic forces of the tunnel lining. The study proved that soil stratification has a great effect on the tunnel seismic forces and it should be considered in the analysis and design. Illustrative curves were presented in this paper to give approximate magnification factors for the anticipated forces. It should be used as a guide in the preliminary design stage.

Keyword: Soil Stratification, Seismic P-Waves, Circular Tunnel, Earthquake Loads.

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Authors: **Ch. Raghavendra, B.Pavan kalyan, K Vijaykrishna, A.Vamsikrishna**

Paper Title: **Design & Analysis of Multiband Sierpenski Gasket Fractal Antenna using Iteration Method**

Abstract:Wireless communication systems require antennas of multiband support,small design dimensions and higher gain. To provide size reduction and better impedance matching, geometrical interpreted fractal antenna is suitable. This allows the antenna to operate at different frequencies. To rise performances with respect to bandwidth, gain and multiband resonance, an array can fulfil the requirements. This paper shows the design and simulation of the Sierpinski Gasket array for multiband applications (4GHz to 8GHz, 8GHz to 12GHz) up to 4th iteration. The fractal geometry for patch antenna is selected due to low cross polarization radiation and ease of fabrication. Sierpinski gasket is known by the name, Sierpinski triangle having triangular slots using mid-point geometry of the triangle. This array makes use of micro strip feed where FR4 epoxy is used as the dielectric substrate. A low profile dielectric is used to get the radiation in maximum amount. This antenna finds its uses in satellite communications and transmissions,Wi-Fi. The simulation is carried out by using High Frequency Structure Simulator HFSS V13 software for the proposed antenna.

Keyword:fractal antenna, sierpinski triangle, sierpinski gasket array.

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No.1, pp. 25-37, January 1981.

497.	**Authors:**	**Chinmaya Kumar Nayak, Satyabrata Das**	
	Paper Title:	**Energy Holes Minimization with Enhanced AEIAWSNHP Algorithm**	
	Abstract:The developments of wireless sensor network are motivated by many applications. It needs the Sensor nodes location. Sensor nodes are based primarily for identification procedure to resolve their significant position. In general, Sensor nodes are capable of some restricted power supply. As a result for detecting the power of sensor nodes an Identification algorithm is used by wireless sensor network. An Efficient Identify Algorithm for Wireless Sensor Networks with High Precession (AEIAWSNHP) is one efficient energy identification algorithm that has been proposed recently. In this work we examine the blow of using three techniques through the improvement of AEIAWSNHP in civilizing the energy efficient of enhanced AEIAWSNHP.At first, a Distinct-assessment Method, where a node estimate its location simply at one time. Secondly, active power manages; in this place the mention nodes decrease their communication power according to the gap to the node that transmits the position requirements. Third, an addition and expanding request speed method, that regulate the frequentness of dispatching the locate inquiry. The simulation result present that the new technique decreases the power utilization of the updated AEIAWSNH, Accuracy of the location assessment remains unchanged. **Keyword:**Identify procedure; power competence; enhanced AEIAWSNHP; consecutive-enhancement identify algorithm; Wireless sensor network. **References:** **1.** M. Abu-Mahfouz and G. P. Hancke, ns-2 extension to simulate localization system in wireless sensor networks, in IEEE AFRICON Conference, pp. 1–7,2011. 2. F. Yaghoubi and A. Abbasfar, Energy-efficient RSSI-based localization for wireless sensor networks, IEEE Commun., vol. 18, no. 6, pp. 973–976, (2014). 3. A M abu-Mahfouz and Gerhard P. 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498.	**Authors:**	**M. Srilatha, D. Nagajyothi, V. Jyothi**	
	Paper Title:	**Smart Garbage Collection and Dumping System using NI myRIO and Arduino**	
	Abstract:The key issue in waste management system to ensure healthy environment is Garbage Collection and Dumping In traditional method, at public places garbage bins are placed to collect the garbage, which is usually		**2934-**

collected by the garbage collection truck with the help of employed personnel and will be sent to the dumping yard to dump the collected garbage. These bins overflowed frequently before the routine maintenance takes place, which leads to bad order and unhygienic environment causing various life-costing diseases. As this problem is increasing day-by-day, an automated system for effective waste management system is desired which can collect garbage timely without human involvement is proposed and is implemented using NI myRIO, Arduino UNO and NI LabVIEW software. The proposed system consists of two main sub systems- Big Bin and small bin. Big bin moves in a regular predefined path marked as black line in regular time intervals to collect garbage from Small Bins placed in different locations. The proposed system is capable to automate the entire garbage collection and dumping process to ensure healthy environment.

Keyword:myRIO, LabVIEW, Arduino UNO, Waste Management, Garbage Collection and Garbage dumping, IR Sensors.

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Authors: **Zakir Hussain, Malaya Dutta Borah, Abdul Hannan**

Paper Title: **N-gram based Machine Translation for English-Assamese: Two Languages with High Syntactical Dissimilarity**

Abstract:To bridge the language constraint of the people residing in northeastern region of India, machine translation system is a necessity. Large number of people in this region cannot access many services due to the language incomprehensibility. Among several languages spoken, Assamese is one of the major languages used in northeast India. Machine translation for Assamese language is limited compared to other languages. As a result, large number of people using Assamese language cannot avail lots of benefits associated with it. This paper has focused on the development of the English to Assamese translation system using n-gram model. The n-gram model works very well with the language pair having high dissimilarity in syntax compared to other models. The value of n has a very big role in the quality and efficiency of the system. Bilingual Evaluation Understudy (BLEU) score differs significantly with the change of the n-gram. This model uses tuples to reduce the consumption of excess memory and to accelerate the translation process. Parallel corpus has been used for training the n-gram based decoder called MARIE. The number of translation units extracted using n-gram model is much less than the translation units extracted using phrase based model. This has a high impact on system efficiency.

Keyword: Statistical Machine Translation, N-gram, MARIE, English-Assamese Translation, Tuple Extraction

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500.	**Authors:**	**A. K. Shrivas, S. M. Ghosh, Amit Kumar Dewangan**
	Paper Title:	**Text Classification of Cornell Movie Data using Data Mining with Feature Selection**

Abstract:Text Classification is branch of text mining through which we can analyze the sentiment of the movie data. In this research paper we have applied different preprocessing techniques to reduce the features from cornell movie data set. We have also applied the Correlation-based feature subset selection and chi-square feature selection technique for gathering most valuable words of each category in text mining processes. The new cornell movie data set formed after applying the preprocessing steps and feature selection techniques. We have classified the cornell movie data as positive or negative using various classifiers like Support Vector Machine (SVM), Multilayer Perceptron (MLP), Naive Bayes (NB), Bays Net (BN) and Random Forest (RF) classifier. We have also compared the classification accuracy among classifiers and achieved better accuracy i. e. 87% in case of SVM classifier with reduced number of features. The suggested classifier can be useful in opinion of movie review, analysis of any blog and documents etc.

Keyword: Classification, Cornell Movie Dataset, Feature Selection, and WEKA Tool.

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Authors: **Amir Bashir, Sandeep Singla, Manish Kaushal**

Paper Title: **Inquisition on Cost & Time Overrun in Road Construction Projects in Kashmir.**

Abstract:The success of the project is generally acknowledged by the fact whether the project is completed within the time and budget. There are many challenges in this for completion of project within time and budget, this result in poor performance of project often. The construction cost and time overrun is most substantial problem in Jammu and Kashmir. This problem is faced by all parties like contractors, clients, subcontractors and suppliers. The aim of this research study is to find out factors that leads to cost and time overrun in road construction projects in Jammu and Kashmir. The results of this research shows the key factors that cause cost and time overrun in road construction projects in Jammu and Kashmir are Land acquisition problems, payment delay for completed work, delay in shifting of utilities inclement weather conditions, Security situation, design changes during construction, Lack of modern technology and market inflations

Keyword:project acknowledged construction, Kashmir.

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Authors: **Z. Rasin, F. Daud, M. A. M. Zan, N.A. Rani, M. A. Yazid**

Paper Title: **Design and Development of Integrated Stationary Cycling Charger for Promoting Healthy Lifestyle**

Abstract: A powerful smartphone with all the high-end features has becomes one of the basic necessitie in today's modern life. People use the smartphone not only for communication purpose, but for other things such as entertainment, education, and work. As our life has becomes very much dependent on this kind of technological gadget which makes everything easier and faster to access, it becomes a main reason for our lack of daily physical activities which poses potential health issues such as obesity, high cholesterol level and high blood pressure. Despite various brands and models of a smartphone, one thing in common is the use of battery to power the device, where it needs to be recharged over time. The movement of wheel with a motor installed able to generate electricity thus powering the battery. In this research, the enjoyable and healthy activity of cycling is further upgraded to become what is known as a "cycling charger" as a way of promoting a healthy lifestyle within the community. It focuses on the conceptual design and prototype development of a stationary cycling charger which can be located everywhere within the public area for easy access and usability. The specification and parameters of the cycling charger are determined based on the average potential users, including the electrical capacity and device protection. It is then followed by the modelling and simulation works using a software to determine the feasibility before proceeding to the prototyping stage where all the designed circuitries are fabricated and integrated with sensors and microcontrollers for processing information and providing user interface. Lastly, several measurement and operation verification are conducted to ensure a satisfactory operation of the developed

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cycling charger. It is verified the developed prototype can be operated at a minimum cycling speed a low as 8 km/h which is good for wide range of user with different cycling ability. Its size which is basically based on the available stationary cycling exercise platform and together with an independent battery supply for all its operation make it easier and flexible to be installed within the public area.

Keyword:stationary cycling charger, DC motor, healthy lifestyle

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Authors: **S. K. Dinesh Kumar, A. K. Saravanan, Raghuram Pradhan, Ramya Suresh, K. Senthilnathan**

Paper Title: **Characterization of Al-SiO2 Composite Material**

Abstract:The present investigation centers at assessing the mechanical properties of Aluminum within the sight of Silicon di-oxide, and their blends. The creations were signified the necessary level and mix throwing technique was utilized for the improvement of Aluminum Metal Matrix Composites. Basic portrayals were done on Metal Matrix Composites by X-beam diffraction techniques and Field Emission Scanning Electron Microscopy (FE-SEM) was utilized for the miniaturized scale basic examinations. The tests for mechanical properties of metal lattice composites like tensile quality and Hardness were done. Within the sight of Silicon di-oxide (0-10%) with Aluminum grid, it was clear that the densities of the composites were diminished and the hardness was expanded. Correspondingly, a decline in rigidity additionally had been seen with decline in support in the Metal Matrix. The SEM examination completed for contemplating the Material Morphology has likewise been emerged in this investigation.

Keyword: Al-SiO2, Particle Size, Fracture Surface, Field Emission - Scanning Electron Microscopy Evaluation.

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Authors: **SrijaJuluru, R. Sanjaykumar, Adarsh, Ajith, K SShiyas Ismail**

Paper Title: **Improvement on Mechanical Properties of Fresh and Hardened Concrete by Marble Waste and Pumicite**

Abstract:Development, world-over is fuelled by growth of the economy and the growth of economy is fuelled by growth in infrastructure. Estimates record a consumption of 6.6 Gigatonnes of concrete in China in earlier part of this decade, for infrastructure development. But today the world is poised on a tipping point environmentally, and sustainable growth is the need of the hour. This requirement is leading to research in replacement of energy intensive materials, along with capture and utilization of available waste. Marble powder waste which has deleterious impact on environment is one such material. Existing literature majorly focus on utilization of marble powder as fine aggregates in concrete. This study aims to study the suitability of marble powder as a filler material and as a replacement of cement. Pumice breccias are used as coarse aggregates. Experimental investigations were conducted to ascertain the compressive and split tensile strength in concrete with marble powder replacing cement by various percentages. The results indicate a general improvement in both compressive and split tensile strength.

Keyword: Pumices, Marble Dust, Compressive, Flexural

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Authors: **Amira Eid, Ahmed A. Emran, Ahmed Y. Morsy**

Paper Title: **A Dwt and Scrambling Based Blind Watermarking Algorithm for Digital Images Authentication**

Abstract:Like the other multimedia that is spread on the Internet, images are also vulnerable to theft and attacks. Protecting the image is therefore an urgent necessity because it represents a large proportion of the digital content. Authentication and ownership protection are the basic demands of image security and these are achieved by applying watermarking techniques. For the Muslim world, the Holy Quran has its sanctity, which does not accept any controversy or doubt. As part of keeping pace with modern technology, digital copies of the Holy Qur'an are available, which are widely distributed all over the world. Therefore, it is necessary to ensure that these copies maintain their integrity and ensure that there are no malicious manipulations. In this paper, we propose an image watermarking scheme to authenticate the images of digital version of Holy Quran using discrete wavelet transform DWT. Here a fragile watermark is used to clarify whether there is any modification occurred to the intended images. Initially the cover image is decomposed by DWT where 2nd and 4th level coefficients are exploited for watermark embedding. The intended watermark is obtained by scrambling the original cover image. Then the scrambled image is inserted into the DWT coefficients by several trials using different embedding gains. To evaluate our system and see how effective it is to detect any error or manipulation, PSNR, SSIM and MSE are employed beside that they are acting as an imperceptibility measure. Results proved that our method has achieved a good level of imperceptibility and can detect any slight tamper. It is necessary to bear in mind that this method is valid for application to normal color images as well and gives an excellent level of efficiency.

Keyword: Holy Quran, Authentication, Discrete Wavelet Transform (DWT), Fragile watermark, Image watermarking, Scrambling.

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Authors:	**Ismayil Kani .N, Manikandan. B. V, Premkumar. K**
Paper Title:	**Design and Analysis of Three Phase Soft Switching Inverter Incorporating Fuzzy Logic Controller**

Abstract:A soft switching three phase inverter with the fuzzy logic system is proposed . The controller design is explained in this paper. The soft switching is achieved through zero voltage switching methods.The soft switching is attain through auxiliary circuits.Therefore, the auxiliary circuit will be enhanced the conversion efficiency, and the conduction loss will be scaled down. The performance of proposed controller is illustrated using MATLAB Simulink.The mode of the prototype is fabricated and tested. The Simulation and hardware results validate each other, which show that the presented method is both satisfactory and consistent with expectation.

Keyword: Zero voltage switching, soft switching, Fuzzy logic controller, switching losses , Three phase inverter.

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507.	**Authors:**	**P. Priyadharshini, B. S. E. Zoraida**	
	Paper Title:	**Feedback Based Adaptive Recurrent Neural Network for Cancer Detection using Gene Data Pattern**	
	Abstract:Cancer detecting technology plays a vital role in the medical community. Researches have shown that patients that are affected by cancer carry same type of genetic patterns in their DNA. With this in mind, this research work concentrates on analysing gene pattern for detecting cancer using deep learning algorithms. The Feedback based Adaptive Recurrent Neural Network (FA-RNN) approach is designed to classify and analyse the gene pattern recognition. The data augmentation is done to improve the quality of the input data from COSMIC dataset which includes the detection of missing values, removing the noise present in input using multiple imputations and reducing higher base value can be done using dimensionality reduction process. After obtaining the improved dataset, the training phase begins by estimating the exact weight value of feedback layer using feedback weight loop calculation technique to lessen number of repetition during training. Moreover, the error calculation is done to evaluate the exact weight values of feedback layer used for classification. Finally the classification is done by selecting the next appropriate hidden neuron using the neuron selection activation function. The performance of the Feedback based Adaptive Recurrent Neural Network technique can be analysed using the evaluation metrics accuracy, computation time and Root Mean Square Error (RMSE) and the attained results are compared with the Recursive Neural Network(RNN) and Convolutional Neural Network(CNN) algorithms. The obtained results such as higher accuracy, reduced RMSE and less computation time in Feedback based Adaptive Recurrent Neural Network indicates that it performs the enhanced operation than CNN and RNN.

Keyword: Convolutional Neural Network(CNN), Recursive Neural Network (RNN), Feedback based Adaptive Recurrent Neural Network (FA-RNN).

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508.	**Authors:**	**J. Y. V. Shiva Bhushan, Raj Kumar**	
	Paper Title:	**Settlement Analysis of Recycled Concrete Fine Aggregate Blended Soils using Geostudio**	
	Abstract:Crushed concrete (CC) is one of the most abundant waste materials generated from construction industry. This material is widely recycled and used in various applications like pavement, concrete aggregates and backfilling. Crushed concrete is mixed with any of virgin soil to increase the engineering properties of soil. In the present study, a sample of crushed concrete is collected from demolished buildings at Secunderabad and the material is segregated according to gradation for the present study. The index properties of crushed concrete like pH, specific gravity, water absorption, particle size distribution are obtained. Locally available soil is partially replaced i.e., 30%, 50%, and 70% with crushed concrete fine aggregates and its compaction characteristics and shear strength parameters are determined. In the continuation of the study, a numerical model is developed using a finite element software i.e GeoStudio Sigma/w. Mesh and boundary extent convergence studies are done for the model. The top 1m virgin soil is replaced with the mixture of CC and soils. Settlements for various percentages of	

CC and for different width of footing are obtained for a uniform stress of 200kPa. The stress is applied in 5 stages in order to simulate real field conditions. It was observed that 30% replacement of CC have given the least settlement for all widths of footing considered in the study

Keyword: Crushed concrete; foundation; settlements

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Authors: **S. S. Ponde, S. S. Lomte**

Paper Title: **Improving Duty Cycle-based MAC Protocol in Wireless Networks using AI and Machine Learning**

Abstract:Duty cycle of a Medium Access Control (MAC) protocol is made up of sleep phase, wake-up phase and listen phase. MAC protocols usually proposes to optimize the duration of the wake-up and listen phases, in order to increase the duration of the sleep phase, thereby reducing the unwanted energy consumption of the wireless node. In this paper, we propose an Artificial Intelligence (AI) and machine learning (ML) based approach, which uses a hybrid combination of Time Division Multiple Access (TDMA), Bitmap Assisted MAC (BMA) and Sensor MAC (SMAC). The machine learning layer utilizes the duty cycle in the MAC layer, and generates multiple solutions for a given wireless communication. The AI layer then selects the best solution from the generated solutions by incorporating a duty cycle factor in the selection function, thereby optimizing the duty cycle of the protocol. The proposed system shows a 15% improvement in communication speed, and a 10% reduction in energy consumption across multiple communications. We plan to further extend this work for rural India, and apply it to real time agricultural applications.

Keyword: Artificial Intelligence (AI), MAC, TDMA, BMA, SMAC, Duty cycle.

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Authors: **R. Madhu iPriya, iJ. Naga Muneiah**

Paper Title: **Detection iof I Sentiment iAnalysis with Co-Occurrence iData iusing iSupervised iand iUnsupervised Methods**

Abstract:iWith ithe irapid igrowth iof iuser-generated icontent ion ithe iinternet, isentiment ianalysis iof ionline ireviews ihas ibecome ia ihot iresearch itopic irecently, ibut idue ito ivariety iand iwide irange iof iproducts iand iservices, ithe isupervised iand iunsupervised idomain- ispecific imodels iare ioften inot ipractical. iAs ithe inumber iof ireviews iexpands, iit iis iessential ito idevelop ian iefficient isentiment ianalysis imodel ithat iis icapable iof iextracting iproduct iaspects iand idetermining ithe isentiments ifor iaspects. iA itext iprocessing iframework ithat ican isummarize ireviews iwould itherefore ibe idesirable. iA isubtask ito ibe iperformed iby isuch ia iframework iwould ibe ito ifind ithe igeneral iaspect icategories iaddressed iin ireview isentences, ifor iwhich ithis ipaper ipresents itwo imethods. iIn ithis ipaper, iwe ipropose ian iunsupervised imodel ifor idetecting iaspects iin ireviews. iIn ithis imodel, ifirst ia igeneralized imethod iis iproposed ito ilearn imulti-word iaspects. iSecond, ia iset iof iheuristic irules iis iemployed ito itake iinto iaccount ithe iinfluence iof ian iopinion iword ion idetecting ithe iaspect. iIn icontrast ito imost iexisting iapproaches, ithe ifirst imethod ipresented iis ian iunsupervised imethod ithat iapplies iassociation irule imining ion ico-occurrence ifrequency idata iobtained ifrom ia icorpus ito ifind ithese iaspect icategories. iThe iproposed iunsupervised imethod iperforms ibetter ithan iseveral isimple ibaselines, ia isimilar ibut isupervised imethod, iand ia isupervised ibaseline; ithe iproposed imodel idoes inot irequire ilabeled itraining idata iand ican ibe iapplicable ito iother ilanguages ior idomains. iWe idemonstrate ithe ieffectiveness iof iour imodel ion ia icollection iof iproduct ireviews idataset, iwhere iit ioutperforms iother itechniques.

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Keyword:iAspect icategory idetection, iconsumer ireviews, ico-occurrence idata, isentiment ianalysis, isupervised, iunsupervised.

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Authors: **Nishant Kumar, Bisakha Chalisey, Sunil Saharan, Megha Gupta**

Paper Title: **Effect of Surface Applied Organic and Inorganic Corrosion Inhibitors on Reinforced Steel in Concrete**

Abstract:This paper presents the results of an experimental investigation carried out to study the effect of surface applied organic and inorganic corrosion inhibitors on reinforced steel in concrete. The reinforcement bars were coated with Neem powder (organic inhibitor) and Zinc powder (inorganic inhibitor) as corrosion inhibitors. The samples of beams of size 100X100X640mm having 4 steel bars as reinforcement were prepared and cured in normal water for 15 days and in saline environment for 42 days. The inhibitors were applied in the form of 2 coats, 4 coats and blend of both. The grade of concrete used was M30. Half-cell Potential and Weight loss measurements were carried out to determine the efficiency of corrosion inhibitors [11]. The corrosion inhibition efficiency of controlled specimen and coated specimens were compared. From the results it was seen that samples with 4 coats of Neem showed 44% inhibition efficiency as compared to control specimens. Similarly specimens with two coats of Neem, four coats of Neem and Zinc also showed better corrosion inhibition efficiency. Highest weight loss was observed in case of control specimen. The study concludes that use of surface applied corrosion inhibitors prove efficient in enhancing the corrosion inhibition efficiency of concrete. Surface applied corrosion inhibitors provide

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protective layer to the reinforcement thereby protecting it from corrosion and increasing the durability of the structure. This type of technique of using corrosion inhibitors in concrete can be used in various structures such as buildings, bridges, sewage pipes, marine structures, abutments & piers, RCC roads which are subjected to harsh environmental conditions.

Keyword: Corrosion inhibitors, Half-Cell Potential, Reinforced Concrete, Neem powder, Zinc powder

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Authors: **Shovon Nandi, Narendra Nath Pathak, Arnab Nandi**

Paper Title: **Efficacy of Channel Estimation and Efficient use of Spectrum using Optimised Cyclic Prefix (CP) in MIMO-OFDM**

Abstract:The performance of MIMO-OFDM network gets affected due to problems in the channel estimation which is essential for designing receivers. The issues in MIMO are due to sizable inadequate Cyclic Prefix (CP) in admired Orthogonal frequency division multiplexing (OFDM), a massive amount of detection error and channel estimation problem occurs due to which performance delay turn out. This paper proposes a solution, its implementation and analysis of results. The article uses the BAT and Modified Flower Pollination (MFP) algorithm for optimizing the CP length. Minimum CP length gets considered to achieve better throughput for the same MFP algorithm. This algorithm has been proposed to optimize CP length to achieve minimum error rate of bit (BER) and PAPR-Peak to average power ratio, thereby maximizing the spectrum efficiency. For comparing the efficacy of optimized CP and unoptimized CP, the paper examines the results obtained on studying the performance in the spectrum. The performance of BAT and MFP algorithm are compared with each other to determine the better optimization methodology for the problem.

Keyword:BAT Algorithm, Bit Error Rate (BER), Cyclic Prefix (CP), MIMO-OFDM, Modified Flower Pollination Algorithm (MFPA), PAPR

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Authors: **Bushra Tahseen, P. Suryanarayana Babu**

Paper Title: **An Advanced Optimization Protocol for Cross Layer Routing in MANET**

Abstract:Through advancements in communication techniques, there have been significant advances in information technology. Information exchange is captive from infrastructure-based to infrastructure-free techniques. Development in wireless technology and portable computing systems has brought interest in the mobile communication field. The increasing flexibility of people around the network has generated demand for mobile networks such as MANET that can be deployed rapidly and without infrastructure. When users of MANET expect effective communication, seamless reliability is currently crucial across heterogeneous mobile wireless systems. The main challenges in adhoc networks are regular topology changes due to flexibility and limited battery capacity for mobile devices. Depletion of the power source may cause early links in the network to be unavailable. Often, due to frequent breaks in path and affects the performance adversely needed for applications as well as node flexibility. This research paper aims to test and suggest a cross-layer interaction model between transport layer, routing layer, data link layer, and physical layer with power-efficient routing intentions. Using the proposed link prediction model, the article modified the incorporated AODV routing protocol by the link prediction algorithm to predict the accessibility time and even before the connection breaks. The proposed algorithm increases the service quality of the network and NS2 simulator checked the model. The simulation results indicate that the performance of the AODV routing algorithm is much more effective than the current algorithm.

Keyword:AODV Routing Protocol, Communication Techniques, MANET, Mobile Wireless Systems, Prediction Algorithm, Wireless Technology .

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Authors: **Nainavarapu Radha, Tummala Ranga Babu**

Paper Title: **Stationary Wavelet Transform based Image Fusion using fusion rules**

Abstract:Multifocus image fusion is a current research topic in the area of image processing for visual sensor

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networks. Discrete wavelet transform based fusion algorithms suffer from unintended effects like smoothing of edges, loss of contrast and artifacts. To overcome these problems, Stationary Wavelet Transform based algorithm using fusion-rules is proposed and applied to multifocus images. Stationary Wavelet Transform well preserves the edges and avoid artifacts with its shift-invariance property. Entropy and spatial frequency based fusion rules in this work can effectively characterize the intensity variations in an image there by loss of contrast is minimized. Simulation results show that the proposed method can amply preserve the edges and also avoid artifacts with no loss of contrast.

Keyword: Stationary Wavelet Transform, Entropy, Image Fusion, Spatial Frequency, Fusion rules.

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Authors:	**G. Tony Santhosh, S. Dhandapani**
Paper Title:	**Hybridization of Monarch Butterfly and Grey Wolf Optimization for Optimal Routing in VANET**

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Abstract:The routing process in Vehicular Ad hoc Networks (VANET) remains a more demanding task in city backgrounds. Identifying an optimal end-to-end path that satisfies reduced overhead and delay control is still facing a lot of difficulties and limitations in recent days. These limitations are owing to the increased movement of vehicles, the repeated failures of a path, and the varied obstacles that might have an effect on the consistency of the data routing and transmission. Hence, this paper intends to present an enhanced VANET routing model by considering the network quality metrics including congestion, travel, collision and QoS awareness cost. Accordingly, in the proposed work, a cost model is modeled as the solution for the vehicle routing problem by taking into account the above-mentioned constraints. For determining the optimal route, this research work establishes a new hybrid algorithm known as Grey Updated Butterfly Operator (GU-BO) that links both the concepts of Monarch Butterfly Optimization (MBO) Algorithm and Grey Wolf Optimization (GWO). Finally, the performance of the implemented approach is compared over other conventional approaches with respect to congestion and cost analysis, and proves its superiority of proposed work over others.

Keyword: Collision cost; Cost analysis; MBO optimization; Optimal routing; VANET.

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Authors: **Sumitra Nuanmeesri, Wongkot Sriurai**

Paper Title: **Development of the Edible and Poisonous Mushrooms Classification Model by using the Feature Selection and the Decision Tree Techniques**

Abstract:This research aims to develop a classification model for edible and poisonous mushrooms by applying the feature selection approach together with the decision tree technique. Two feature selection methods were applied, including 1) Chi-square and 2) Information Gain, while the effectiveness of the model was compared by three decision tree methods such as Iterative Dichotomiser3, C4.5 and Random Forest. The data used for classifying the edible and poisonous mushrooms derived from the Encyclopedia of Thai mushrooms and the book entitled "Diversity of Mushrooms and Macrofungi in Thailand". The results of the model's effectiveness evaluation revealed that the model using the Information Gain technique alongside with the Random Forest technique provided the most accurate classification outcomes at 94.19%; therefore, this model could be further applied in the future studies.

Keyword: Classification, Feature Selection, Decision Tree, Mushrooms, Poisonous.

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517.	**Authors:**	**Omprakash S. Chandrakar, Jatinderkumar R. Saini**
	Paper Title:	**A Novel Integrated Type 2 Diabetes Prediction Model for Indian Population using Data Mining Techniques**

Abstract:Late diagnosis and undiagnosed type 2 diabetes are the two major concerns for India, which is going to be a diabetes capital shortly. Several diabetes risk score (DRS) tools have been proposed and deployed for detecting the persons with high risk. These DRS tools have been developed using the multiple logistic regression model. But this model is both imperfect and subject to misuse. Another major issue with the DRS tools developed for Indian population is that they are based on the very limited urban population that does not represent the population of India. The objective of current research work is to develop a classification model for type 2 diabetes prediction. Along with this, the building of a novel integrated model for type 2 diabetes risk prediction is discussed consisting of the aggregate classification model and Indian weighted diabetes risk score model. The dataset used to develop and validate the model is obtained from the Annual Health Survey comprising of nearly 0.7 million and nearly 75 thousand adult participants respectively from around 400 districts of India. The proposed integrated diabetes risk prediction model predicts diabetes with 69.89% sensitivity, 56.58% specificity. The positive predictive value of the proposed integrated model is 15.88%, which is a significant improvement as the prevalence of diabetes is only 3.68% for the study population. Developing countries such as India, where undiagnosed diabetes and limited financial resources are a significant concern, the proposed integrated model for diabetes risk prediction can be useful as a cheaper tool useful for mass-screening, which can save up to 30% of the total screening cost.

Keyword: Indian Weighed Diabetes Risk Score; Aggregate Classification Model; Feature Selection; Semantic Discretization, Diabetes Mass Screening Test.

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518.	**Authors:**	**R. Prakash Rao**
	Paper Title:	**Implementation of Parallel and Pipeline Scheme in the Standard Floating Point Adder to Improve the Speed**

Abstract:In real time Signal Processing applications, the analogue signal is over sampled as per the Nyquist criterion in order to avoid the aliasing effect. Floating Point (FP) adder is used in the floating point Multiplier Accumulator Content (MAC) for real time Digital Signal Processing(DSP) applications. The heart of any real time DSP processor is floating point MAC. Floating Point MAC is constructed by Finite Impulse Response (FIR) or Infinite Impulse Response (IIR) filters. FIR filters are stable than IIR filters because the impulse response is finite

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	in FIR. Hence, for stable applications FIR filters are preferred. These FIR filters are intern constituted by FP adder, FP multiplier and shifter. In conventional floating point adder the two floating point numbers are added in series. Series means one after the other so the computation speed is less. In series fashion adding the floating point numbers means definitely it furnishes more delay[1] because in the addition of floating point numbers, along with the addition of mantissas; computation is required for both signs and exponents also. Hence, the processing speed is slow for computing the floating point numbers compared with fixed point numbers. Therefore, in order to increase the speed of operation for floating point addition in real time application i.e., to add 16- samples at a time which are in floating notation; a parallel and pipe line technique is going to be incorporated to the two bit floating point architecture. Before developing such novel architecture, a novel algorithm is developed and after, the novel architecture is developed. The total work is simulated by Modelsim 10.3c tool and synthesized by Xilinx 13.6 tool. **Keyword:**Over sample, Nyquist criterion, Floating point adder, floating point MAC, parallel and pipe line technique, novel floating point architecture. **References:** 1. Pramod Kumar Meher, Senior Member, IEEE, "New Approach to Scalable arallel and Pipelined Realization of Repetitive Multiple-Accumulations", Submitted To Ieee Transactions On Circuits And Systems-Ii: Express Briefs 2. Israel Koren, Computer Arithmetic Algorithms, A K Peters, second edition, 2002. 3. J. Hennessy and D. A. Peterson, Computer Architecture a Quantitative Approach, Morgan Kauffman Publishers, second edition, 1996. 4. M. Karthik kumar, D.Manoranjitham, K.Praveen kumar, "Implementation of Efficient 16-Bit MAC Using Modified Booth Algorithm and Different Adders", International Journal Scientific and Research Publications, Volume 4, Issue 3, March 2014, ISSN 2250-3153.	
519.	**Authors:** **Ravi Seeta Sireesha, P. S. Avadhani** **Paper Title:** **Utilization of Summarization Algorithms for a Better Understanding of Clustered Medical Documents** **Abstract**:Medical documents contain rich informationabout the diseases, medication, symptoms and precautions.Extraction of useful information from large volumes of medicaldocuments that are generated by electronic health record systemsis a complex task as they are unstructured or semi-structured.Various partitional and agglomerative clustering techniques areapplied for grouping the medical documents into meaningfulclusters [4]. Multi-document summarization techniques whichare recent development in the field of Natural LanguageProcessing are applied to condense the huge data present in theclustered medical documents to generate a single summary whichconveys the key meaning. The summarization techniques can bebroadly classified into two types [2]. They are: ExtractiveSummarization techniques and Abstractive Summarizationtechniques. Extractive Summarization techniques try to retrievethe most important sentences from the given document.Abstractive Summarization techniques try to generate summarywith new sentences which are not present in the document.Extractive summarization techniques using StatisticalApproaches are applied on the clustered medical documents.Medical summaries help the patients for a better and priorunderstanding of the disease and they can get a brief idea beforeconsulting a physician. The generated summaries are evaluatedusing ROUGE (Recall Oriented Understudy of GistingEvaluation) evaluation technique. **Keyword:**Partitional and Agglomerative Clustering techniques, Multi-document summarization techniques. **References:** 1. An Extractive Summarization Technique for Text Documents International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-8 Issue-6, August 2019 2. Document Summarization Techniques International Journal of Computer Science Engineering (IJCSE) ISSN: 2319-7323 Vol. 5 No.02 Mar 2016. 3. Enforcing Text Summarization using Fuzzy Logic International Journal of Computer Science and Information Technologies (IJCSIT), Vol. 5 (6), 2014, 8276-8279. 4. Application of Clustering Algorithms to Group Medical Documents. International Journal of Computer Applications (0975 – 8887) Volume 178 – No. 42, August 2019 5. Review On Text Summarization Evaluation Methods Indian Journal of Computer Science and Engineering (IJCSE) 6. 6. Stubbs et al., "Practical applications for NLP in clinical research: The 2014 i2b2/UTHealth shared tasks," in Proc. i2b2 2014 Shared Task Workshop Challenges Natural Lang. Process. Clinical Data, 2014.	**3077-3083**
520.	**Authors:** **Emetere Moses E., Adesina Tijesuni** **Paper Title:** **Energy Planning and Sustainable Biogas Production Prospect Within Residential Quarters in Developing Countries** **Abstract**:The prospects of biogas as a major energy option to alleviate the energy needs in Africa is huge based on its teeming population. However, the main source of biogas i.e. human excretal is being neglected, thereby loosing resource worth 500 MW of electricity. This research is geared towards estimating the accruable biogas that can be harnessed in a typical student hostel in a developing country. The data was collected at the main chamber of the hostel. The estimation of the optimized state of methane, hydrogen sulphide and carbon dioxide is given as 12%, 0.94% and 4.42% respectively. It was also affirmed that the algae growth on the walls of the sewage line is responsible for the low carbon dioxide values. Also, it was reported that the production of hydrogen sulphide gas is predictable, as it is not directly related to the concentration of microorganism in the sewage chamber. This research gives an eye-opener on biogas wastage in developing countries. **Keyword:**biogas, renewable energy, energy planning, energy. **References:**	**3084-3089**

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Authors: **Jaishree Jain**

Paper Title: **Modern with Advanced Direction in Green Cloud**

Abstract:As the Multiple Clouds or Cloud are very flexible and very vast field of data with the correspondence advantages. But as the traffic loads are increasing day by day, which directly hits on the speed of cloud computing. Hence, Green Cloud is added with cloud computing to maintain the traffic load balancing, Cloud computing is introduced with (ICTs) to face advance challenges for the cloud platform and general securities. Cloud computing advancements have an assortment of use spaces, since we are getting solid versatility, reliability and superiority at general minimal efforts. The Cloud computing upheaval is upgrading current systems administration like Cloud computing implement it's on tool and merge to take the advantages of Green cloud, and also offering promising natural security prospects just as monetary and innovative favorable circumstances. These advances can possibly improve vitality productivity and to decrease carbon impressions and e-squander. Cloud computing can be changed by this type of highlights into green Cloud computing. After deep study of Green Cloud, It has been founded that Green Cloud should be audit by the primary accomplishments. I have worked in the paper to turn in the modern direction to improve the old research, so that cloud computing take more or latest advantagesby the use ofgreen cloud, and the clients can work smoothly without facing said issue.

Keyword: Green Date, Green Cloud, Correspondence advancements, Ecological insurance, Manageability

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Authors: **A.Raveendra**

Paper Title: **Experimental Research of Wire Cut EDM for SR & MRR using Taguchi Method**

Abstract:The present research work is to examine & advance the latent procedure factors affecting the MRR, SR and Electrode Attire despite the fact machining of Nickel composites utilizing WEDM progression. This exertion includes investigation of the connection amid the different information route considerations like Pulse-on time(Ton), Pulse off time(Toff), Pulse Peak Current(IP), Wire substantial, Work piece material & procedure factors. In light of the picked information parameters and execution estimates L-16 symmetrical exhibit is chosen to streamline the most appropriate qualities for machining for nickel amalgams by WEDM…

Keyword: Surface Quality; EDM; Taguchi Method;MRR.

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Authors: **P.Chitra, M.Sumathi, A.Sahaya Anselin Nisha, R.Sakthi Prabha, G.Jegan**

Paper Title: **A Smart Eye for the Lost Aeroplane**

Abstract:Now a days even with the aeronautical modern technology along with weather forecasting, aviation accidents still cannot be avoided and hearing news about loss of control, airplane crashes and disappearance due to humans errors, bad climate, mechanical failure or any obstruct. Some missing flights in middle of the seas still could not found where they were collapsing. In this paper the design of a module consists of two layers inner and outer with some sensors. The module is made with hard metal, whenever the flight crashes and interact with water the pH sensor will measure the water. If the water salinity is equal to the sea water, the outer layer of the module become open up and using GPS can find current location and transmitted through RF transmitter. In case of some regions like Bermuda triangle no signals work.The inner module that designed the body like, does not allow the water to pass through it easily inside and it can float on the water. The module consists of high intensity flickering lights can easily identify the location where the module present and through memory in the module can find the place where the planes were collapsed..

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Keyword:GPS, LoRa, mpu6050, vibration sensor, pH sensor, Solenoids..

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Paper Title: **Impact of Heat Shield Thickness on Performance of Roll through Simulation**

Abstract: Rolls of the packing machine undertakes an imperative job in packing industries. So as to decrease the power input and reducingthe heat dissipation rate, there are numerous methodologies, for example, surface coatings, surface boronizing and with heat shields and so forth. This work is expected to reducethe power contribution to heaters by diminishing the heat dissemination rate utilizing heat shields with simulation of different thicknesses. There is a decrease of dissipation of heat by using Stainless steel 316 Ti (0.7 mm thickness) heat shields and there is a reduction of 13.9% in power input, 28% time saving and14% in heat dissipation rate is noticedwhencompared to standard rolls up to steady surface temperature where there is saving of 198W per hour in power after steady temperature. Hence an attempt is being made for improving results that are obtained from experiments by using simulation through ANSYS steady state thermal analysis. From the results it is inferred that as thickness of heat shield increases the input electrical energy for the heater goes on reducing and results shows that 0.7 mm thickness shield is 4.28% efficient than 0.8 mm heat shield. Further through simulation optimum thickness is was observed. But thickness is restricted to 1mm only because of machine specification complexity. Further the results of simulation for varying thickness are presented with contours of temperature distribution and heat flux.

Keyword: Roll, Heat Shield, Heaters and Shield thickness, Simulation

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Authors: **Muminov Alisher Gaffarovich, Mavlonov Djurabek Yorkulovich, Sokiev Khurshid Valievich, Turgunov Azim Turgunovich**

Paper Title: **Transformation of Public Administration Mechanisms: Experience of Uzbekistan**

Abstract:Experts in the field of political research believe that computerization and the emergence of branched information systems require further improvement of the communication foundations of interaction between the subjects of the political process. This seems to be one of the strategic directions in the development of modern democracy. The growing interest in the field of political communications in social research is due to the fact that the development of political communications has significant potential for further democratization of socio-political institutions and processes in modern society. This article discusses the issues of transformation of the public

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administration system in Uzbekistan, the formation of effective mechanisms of "Electronic Government", the existing problems and prospects for the development of this sphere in Uzbekistan

Keyword:information, globalization, technics, technology, cultural, democracy, strategy, civil society.

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Authors: **Kavitha Chandrakanth , Latha Parthiban**

Paper Title: **Synote Usage on E-learning Search**

Abstract:E-Learning plays a necessary role in the way of searching a secured educational video resources for the students. In this paper, e-learning domain introduces a concept of searching a video resources in annotated way with linked data cloud. The purpose for the student to choose e-learning is that the learner can continue learning anywhere and at any time .This paper goes with unique approach of synote tool where synote tool allows the e-learners to search the syntactic web information accurately and with different online video resources. Linked data cloud concept is applied in this concept to search a secured search. The result is proved for secured search of educational video resources and shows the reusability of resources for e-learners.

Keyword:E-learning ,educational video resources, linked data cloud ,synote ,syntactic web information.

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Authors: **Neeraj Bhargava, Ritu Bhargava, Abhishek Kumar, Shikha Bhardwaj**

Paper Title: **Predicting & Visulaizing the Clusters Assignments in Health Care Dataset for Disease Prediction**

Abstract:DM is the process which is used for the analyzing hidden patterns of data. This analyzing completed according to the several perspectives for categorization into usable information. Here, DM is referred as the Data Mining It is composed and assembled in same regions, like data warehouses, for effective analysis, DM algorithms. In paper we will use these records and will find the major attribute which plays an important role in disease prediction. To do so, first we implemented Naive bayes' algorithm where every pair of features being classified is independent of each other. Once we get the Naive Bayes' Result then we apply the Clustering technique on the same dataset. Simple K-Means Clustering is used to get the clusters of the data results. We can visualize the Cluster assignments for each attribute against the Resultant or prediction attribute. We can have the better understanding through these visualizations about the dependencies of attributes on the prediction variable. K-means algorithm is an iterative algorithm that tries to partition the dataset into K predefined distinct non-overlapping subgroups (clusters) where each data point belongs to only one group. And after final analysis of the result of both techniques we found two attributes which are having maximum weight as compare to others. These two attributes Glucose and Insulin must consider in the diabetes prediction.

Keyword: Weka ,data Mining,DM,Decision tree ,SVM.

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Authors: **Priya V, Sampath kumar M.C**

Paper Title: **Anaerobic Degradation of Raw Coconut Waste for Biogas Production**

Abstract:Disposal of coconut coir waste has been a difficult task for the coir industry. Coir pith is being piled up in the outskirts of the coir industry. A solution to the coir pith disposal is the biogas production from it. Raw coir pith without any treatment was tested for its potential to produce biogas. There was very little biogas generated

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from raw coir pith. Due to the constraints of high electrical conductivity and high lignin content, direct anaerobic treatment of raw coir pith cannot be an efficient solution. Treatment of coir pith is required for increasing the quantity of biogas produced.

Keyword: Raw coir pith, Kinetics, methane, biogas, coir industry commas.

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Authors: **P.S.Aravind Raj, R.Divahar, K. Naveen Kumar, K.Rakkshana**

Paper Title: **Cold-Formed Steel Beam-Column Joints with Latex Layer Wrapping**

Abstract:Columns are the primary element of a structure and are the first element to face the effect of lateral load during an earthquake. To resist such lateral seismic loading high strength and ductile steel frames with higher energy absorption capacity are generally preferred. The nominal ductile capacity of the steel can be boosted up with additional wrapping that could optimize the seismic performance significantly. The present work deals on the behaviour of cold-formed steel beam and cold formed steel column wrapped with latex layers for strengthening. The specimens were subjected to reversed quasi-static cyclic loading to partially simulate the seismic forces. Experimental results shows significant increase in strength capacity of beam-column with latex layer wrapping.

Keyword: Seismic, reversal load, Latex wrapping, beam-column joint, composite.

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Authors: **O.E. Yakubenko, O.V. Parkina, Z.V. Andreeva, G.Yu. Chepurnov**

Paper Title: **Adaptive Ability and Stability of the Genotypes of Collection Samples of Green Beans in Siberia**

Abstract:The interaction of the genotype with individual groups of factors has long been the research subject of plant breeders and geneticists. The phenomenon of the "genotype-environment" interaction accompanies the entire history of plant breeding. Due to the necessity of expanding the area of green beans cultivation and the climatic variability, assessing the gene pool of this crop by its adaptive ability and stability for isolating highly plastic and stable genotypes with high productivity is quite relevant. This task is also important for searching for genotypes resistant to biotic and abiotic stress. The article provides an assessment of the adaptive ability and stability of the following green beans varieties: overall adaptive ability, variance of the specific adaptive ability, relative stability, and breeding value of the genotype. The studies were performed at the experimental field of the Garden of Michurinists Educational and Production Farm of the Novosibirsk State Agricultural University. In 2015 – 2018, the authors studied the adaptive ability and stability of 16 varieties of bushy green beans by the main components of the crop productivity. The adaptive ability, the relative stability, and the selective value of the genotypes were determined by the method of A. V. Krichevsky, according to which the adaptive ability is the ability of a genotype to maintain its inherent phenotypic manifestation of the trait in particular environmental conditions. The overall adaptive ability (OAA) of the genotype characterizes the average value of a trait in various environmental conditions, and the specific adaptive ability (SAA) — a deviation from the OAA in a particular environment. The analyzed parameters were calculated by the yield of green beans based on the results of four years of hybrids cultivation. The comparative analysis of common green bean varieties showed a wide polymorphism in terms of the OAA, the SAA, and the breeding values of the genotypes (BVG). This allows identifyingpromising genotypes

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to be included in the selection process by certain characteristics.

Keyword:common beans, variety, coefficient of variation, overall adaptive ability, specific adaptive ability, screening, relative stability, plasticity, Western Siberia.

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Authors: **K. Premkumar, R. Baskaran, M. Shanmugam**

Paper Title: **Enhanced Genetic Algorithm Optimization Models for Vehicular Routing Problems**

Abstract:The Vehicle Routing Problem (VRP) is one of the most studied combinatorial optimization problems because of its practical relevance and complexity. Though there are several techniques have been proposed to solve the VRPs and its variants effectively, each technique has its own tradeoff values in terms of the performance factors. From this perspective, the work presented in this paper proposed an intelligent routing strategy for VRP based on distance values between the cities. The proposed strategy uses an enhanced model of Genetic Algorithm to find the optimal tour paths among the cities under distance based optimized tour path estimation scenarios. For distance-based optimization approach, experiments were performed on the standard benchmark TSP instances obtained from TSPLIB. A set of fine-grained result analyses demonstrated that the proposed model of routing strategies performed comparatively better w.r.t. the existing relevant approaches. By considering this problem as the base, a distinct model was developed as a set of assistive modules for Genetic Algorithms (GA), which are aimed at improving the overall efficiency of the typical GA, particularly for optimization problems. The capability of the proposed optimization models for VRP is demonstrated at various levels, particularly at the population initialization stage, using a set of well-defined experiments.

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Keyword: Genetic Algorithm, Vehicle Routing, TSP

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	Authors:	**Mit Patel, Vinay Khatod, Akash Patel, Nitesh Radadiya, Rajnikant Patel**
	Paper Title:	**Topology Optimization of Disc Brake Rotor**

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Abstract:The main purpose of this study is to analyze the thermo-mechanical behavior of the brake disc during the braking phase. Brakes must undergo through continuous use, so many issues surround their heating characteristics when it comes to their development, including contact region properties, material choice, and development of hot spots, associated physical geometry, and deformations. The coupled thermal-structural analysis is used to determine the deformation and the Von Misses stress established in the disc to enhance performance and life of the rotor disc. A comparison between analytical calculations and results obtained from Finite Element Analysis (ANSYS) is done and the values obtained from the analysis are in the range of allowable values. The experiment has been performed with different disc-geometries. Based on the experiment results we have performed ANSYS simulation for the disc-brake. Hence best suitable optimum design is suggested based on the performance, strength and rigidity criteria.

Keyword:ANSYS, Disc Brake, FEA, Thermo-Mechanical

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	Authors:	**Alok Kumar Mishra, Ramachandra Agrawal, Akshaya Kumar Patra**
	Paper Title:	**Fuzzy Controlled Multiple Output Dc to Dc Flyback Converter with Output Voltage Regulation**

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Abstract:The aim of this paper is to design and closed loop control implementation of a DC to DC Flyback converter with multiple output features.DC-DC Conversion technology is the major subject area in the field of powerelectronics
engineering and drives and has been under development form six decades. Most of the advance systems like telecommunication and computer systems use the single output DC-DC Converter for different levels of voltage in the same system, which limits the efficiency, power density and increases the cost of the whole system. To achieve the features like high efficiency and high density for advance systems Multiple Output DC-DC Converter (MODC) are gathering much attention, and most of the research work is going to get the regulated multiple outputs, for different application like computer, electric vehicles, aircrafts etc. A MATLAB/Simulink model of a Multiple Output Flyback Converter (MOFC) is developed to get the regulated multiple output voltage.Two different control techniques have been employed such as Proportional Integral Derivative Control (PIDC) and Fuzzy Logic Control (FLC), to achieve the same for normal and disturbances cases and its performance is then estimated in terms of various parameters like Rise Time (Tr), Settling Time (Ts) and Overshoot (OS). The comparative results clearly reveal the better response of the proposed approach.

Keyword: Flyback converter, Multiple Output, FLC, PIDC.

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Authors: **P. S. Joanna, Christopher Daniel Raj, Namitha Jacob, Sajil Jonson, T. S. Parvati**

Paper Title: **Performance of Sustainable Nano Concrete**

Abstract:Sustainable Nano concrete is a concrete having less energy consumption during the production and releases less carbon dioxide as compared to conventional concrete. About one ton of CO2 is discharged in the manufacture of one ton of Portland cement, thus having a large influence on global warming. The concrete industry is adopting sustainable technologies to diminish this impact. This paper presents the investigation on a sustainable concrete having Ground Granulated Blast Furnace Slag (GGBS), which is a byproduct of the steel industry, blended with Nano materials. Mechanical characteristics of concrete mixes having varying GGBS content (60%, 70%, and 80%) by weight of cement were investigated and compared with conventional concrete. To enhance the workability, compression strength, durability and early strength of GGBS based concrete, Nano silica, micro silica and calcium carbonate (CaCO3) were added to the concrete mix. It was found that concrete having 60% GGBS as replacement for cement exhibit improved mechanical properties. Also investigations were carried out on reinforced concrete beam with 60 % GGBS. Results indicate that concrete with 60 % GGBS could be used as a sustainable building material.

Keyword: Sustainable Nano concrete, Ground Granulated Blast Furnace Slag, Nano silica, Calcium carbonate.

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Authors: **Vidyullata Devmane, B. K. Lande, Dilendra Hiran, Jyoti Joglekar**

Paper Title: **Homomorphic Cryptosystems for Data Security in Cloud Storage**

Abstract:Cloud Computing enables users to use remote resources thus reduces the burden on local storage. However, the use of such services gives rise to new set of problems. The users have no control over the data which they have stored on those storages so to achieve data authentication with confidentiality is utmost important. As every user may not have that expertise so they can request for data verification task to Trusted Verifier (TV) which will be an authorized party to check the intactness of outsourced data. Since the data owner stores the data on the cloud in an encrypted format, it becomes difficult to check the integrity of the data without decrypting. But by using homomorphic encryption schemes the integrity checking can be made possible without original copy. In this paper, we have given implementation and performance details of two homomorphic encryption schemes, Rivest Shamir Adleman (RSA) and Paillier. The RSA is multiplicative homomorphic scheme where the Paillier is additive homomorphic scheme. Both the algorithms are partially homomorphic thus limited in their functions. Due to homomorphic property of these algorithms, original contents will not get revealed in the verification process. This framework will achieve authentication of data by maintaining confidentiality.

Keyword: Homomorphic algorithms, Data Integrity in Cloud Storage, Trusted Verifier.

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536.	**Authors:**	**Saravanakumar Venkatesan, Sathishkumar V E, Changsun Shin, Yubin Kim, Yongyun Cho**	
	Paper Title:	**A Forecasting Method Based on ARIMA Model for Best-Fitted Nutrition Water Supplement on Fruits**	
	Abstract:The main focus of this research is to promote a forecasting method in the greenhouse of cultivation for the nutrition water level of strawberry fruits. In the greenhouse of cultivation, this study selects strawberry fruits as the focus on research. With adequate nutrition water supply conditions, the autoregressive integrated moving average and seasonal autoregressive integrated moving average (ARIMA-SARIMA) were utilized to create forecasting for the nutrition water level of strawberry leaves in the fruit greenhouse of cultivation, thus forecasting strawberry's nutrition water rate through greenhouse environmental parameters. Next, the multi-scale feature vectors of greenhouse temperature and nutrition water parameters in the greenhouse have been extracted by using the data pre-processing method to eliminate the testing and training value of variables, thus improving the forecasting and generalization ability of the model. The extracted feature vectors have been used to train and optimize the SARIMA model, finally obtaining the forecasting model of nutrition water rate of strawberry fruits leaves in the greenhouse of cultivation, which has been compared in experiments with the autoregressive integrated moving average and seasonal autoregressive integrated moving average (ARIMA - SARIMA) model. The results indicate that when training samples become a certain amount, the forecasting accuracy and regression fitting degree of ARIMA - SARIMA can be higher than that of the two traditional models. We forecasted that the strawberry greenhouse included 233 samples collected from a strawberry greenhouse in South Korea, and the 6 variables involved are greenhouse maximum temperature, greenhouse minimum temperature, greenhouse average temperature, quality of nutrient water, humanity, and CO2, which would influence the strawberry growth in production concentration directly or indirectly with the variation of nutrition water every day.

Keyword: Nutrition Water, Greenhouse Average Temperature, Humanity, Co2, ARIMA and SARIMA Model.

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537.	**Authors:**	**Abdallah DADI Mahamat, Ali Abakar, Alexis Mouangué Nanimina, Abdallah Bannah Mahamat**	
	Paper Title:	**Measurement of the Thermal Conductivity and Rainwater Resistance of the Stabilized Mound Soil with Cement**	
	Abstract:This study is the result of experimental work in the field thermal of buildings. The study focuses on mounds termite’s clays. In this study a thermal analysis by the measurement of the thermal conductivity and the thermal resistance is carried out. This approach to determining the characteristics of materials has led to a better understanding of the possible choice of local building materials available in Chad. The estimation of thermal parameters of building materials plays a key role in a large number of scientific and industrial fields. Our choice	**3174-3179**

has been focused on the termite mound soil which is currently of interest as a result of availability, energy crisis and that of housing.Unlike cement concrete, thé soil has long been used as a building material with practically many environmental benefits and considerable energy savings.

The results obtained showed that the materials we used have a appreciable thermal properties. Brick from naturally occurring mound termite soil has better thermal resistance than brick made from mound termite soil, which means it is worked in advance. The influence of density on thermal resistance has been demonstrated. The stabilization of the cement reinforced the structure of the material and its resistance to erosion of the rain water.

Keyword:mound termites soil, thermal resistance, building materials, thermal comfor.

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Authors: **Mansoor Farooq, Mubashir Hassan Khan**

Paper Title: **Pattern Recognition in Digital Images using Fractals**

Abstract:Pattern recognition in digital images is a conjoint problem with application in remote sensing, electron microscopy, medical imaging and astrophysics, still no general solution which can be rivalled with the human cognitive system in which a pattern can be conceded subject to random positioning and scale. This research has stemmed in the design and implementation of a new algorithm for general pattern recognition based on the use of fractal image compression. This approach has for the first time allowed the pattern recognition problem to be solved in a way that is invariant of rotation and scale. It allows both ANNs and correlation to be used subject to appropriate pre-and post-processing techniques for digital image processing.

Keyword:ANN, Cross-Correlation, Least Square Method, Fractal Image Compression and Pattern Recognition

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Authors: **Debabrata Sarddar, Sougata Chakraborty**

Paper Title: **Choosing the best Bin Packing Algorithm for Replica Placement in Multi-Tenant Cloud System**

Abstract:Of late, Cloud Computing is visibly seen to reduce infrastructure costs with high data availability and performance conforming to service level agreement for both the service providers and the users. With the rapid and explosive growth of the number of cloud users, Cloud Data Management System must serve an array of different analytical and transactional workloads. Hence, to ensure the scalability in a multi-tenant system, replica placement algorithms always come into the picture appropriately. In our work, we have vividly analyzed various replica placement algorithms in terms of their performance and tried to find the beneficial aspects to be the fittest one to tackle the situation when the actual observed workloads are immensely deviated from the estimated workloads.

Keyword:DBaaS, Replica Placement, Bin Packing, Multi-tenant System

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540.

Authors: **V. Balaji, R. Selvam**

Paper Title: **Design the Optimum Sizes and Analysis Shapes of Gantry Machines**

Abstract:In the present day's need of the special purpose machine is more to the industries. Earlier heavy load carrying machines are there that to in open place only. By taking them in consideration in this paper made such that must lift 1 ton capacity weight with very effective in operation and maintenance in small area of industry. The initial period many type of gantry are used to lift the heavy load and problem with that is they were heavy in structure and completely manually one. So designing the new structure with new technology which can easily pick the material and place to another place using gantry in small scale industry. Redesigning the structure reducing the material to save the cost of structure. In this project gantry design is developed by considering present development in machinery, it helps to pick and place the heavy parts in rail transportation, aerospace and other automobile industries. In this paper going to discuss how the beam will deform when it having self-weight, gravity loading, structural analysis and modal analysis is done on the machine which shows the results like stresses and displacement, to reduce the cost of the machine, thickness of machine columns is reduced and this is the type of optimization carried out here. The amount of strength and stiffness is maintained same as the original model and all results compared to the original model, the structural analysis and modal which is of main result viewing in the whole work.

Keyword: Loading Condition, Structural Analysis, Optimization of Structural Analysis, Model Analysis.

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541.

Authors: **Deepak Nayak, Purushotham G. Sarvade, H. N. Udaya Shankara**

Paper Title: **Effect of Vertical Drains on Strength and Deformation Characteristics of Lithomargic Clay**

Abstract:During olden days, construction used to be carried out only on the sites having good strength. But now-a-days availability of sites with favourable properties are limited. So, there is a need to modify the properties of

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subsoil using different types of Ground Improvement Techniques. Depending upon the nature of soil, a suitable economical technique needs to be adopted. Soft soils have weaker strength and they are highly compressible and take a lot of time for settlement. So, these are typically problematic for construction. There is a need to improve the condition by accelerating the rate of consolidation.

To achieve higher rate of consolidation, it is important to develop shorter paths for movement of the water. A vertical drainage system can be provided to accelerate the rate of consolidation and help to minimise excess pore pressure in the sub-soil. As a result of this, a stable situation is reached more quickly. Thus to enhance the strength of the soil and to accelerate the consolidation rate, vertical drains of different diameters and with varied spacing are employed.

The improvement in properties of soft consolidating lithomargic clay is experimentally tested with vertical sand drains in developed prototype. The vertical sand drains installed with 1.905 (0.75 inch) diameter and 6 cm spacing is more effective in increasing Ultimate Bearing Capacity (UBC) of soil and also the rate of settlement of 35.26 % is significant up to 60 kg of preloads. Thus problematic lithomargic clay can be improved in its strength and settlement characteristics.

Keyword: Lithomargic clay, Ultimate Bearing Capacity, Rate of consolidation, Vertical drains.

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542.

Authors: **Jodh Singh, Munish Gupta, Rajesh Kumar, Harmesh Kumar**

Paper Title: **Heat Transfer using Nanofluid**

Abstract:Latest trend of miniaturization of thermal systems, calls for the improvement in their efficiency. Nanofluid contains the nanoparticles having large surface area and improves the thermal efficiency. This enhancement is the function of different mechanisms and parameter. This paper explores the heat transfer nature of nanofluids by addressing the experimental studies available in literature and conducting an experimental study using water based Copper oxide nanofluids. Nanoparticles were characterized by X-ray diffraction analysis and Field Emission Scanning Electron Microscopy to confirm the material, size and morphology of the nanoparticles. Thermal conductivity analysis has been performed at 30˚C, 40˚Cand 50˚C with 0.1%,0.5% and 1% concentration by weight. Mechanism of agglomeration, concentration and size of particles are found to be more significant in affecting the heat transfer. The maximum enhancement of 22.9 % in thermal conductivity is found in case of 1% weight concentration nanofluids consisting of small size (20nm) nanoparticles at temperature of 50˚C.

Keyword:heat transfer, temperature, volume concentration, nanofluids, clusters.

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Authors: **J. Sunil Kumar, V. Radhika, N. Srinivas, P. Manikyamba**

Paper Title: **Ion-Conductance and Solvation Behavior of Benzyl Trimethyl Ammonium Chloride in Aqueous-Methanol Mixtures**

Abstract: Ion-conductance and solvation conduct associated with diverse electrolytes in solvents is recited to be shaped by numerous aspects like density, viscosity, dielectric constant of medium, ion-solvent relations and solvent-solvent actions. Ion-solvent interactions soothe the ion by solvating it. Conductance statistics and viscosity numbers of distant electrolytes is of use in analyzing the ion solvent relations and solvation behavior of the ions. Conductance and ion-solvation behavior of benzyl trimethyl ammonium chloride has been measured in aqueous methanol and aqueous dimethyl formamide of different composition in the temperature range of 283K to 318K. Limiting molar conductance dissociation constant of the ion pair, KC are figured using Fuoss-Kraus Limiting Law. $\lambda 0$ rise with percentage of water in the solvent fusion. KC value is highest in pure aqueous solvent. Walden product is highest in 20% aqueous-methanol mixture signifying that ion-solvent interactions are highest at this composition of solvent combination and Walden .product as a function of the specific ion-solvent interactions including structural effects.

Keyword: Benzyl trimethyl ammonium chloride, Free energy change, Aqueous-MEOH, Ion-solvation.

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Authors: **Sk. Ahmad, M.v.j.t.Arun, B.Vimala Kumari, K. Shirley, Ch. Swetha**

Paper Title: **Research on Mechanical & Tribological Properties of Natural Fiber Composites**

Abstract:The composite materials play an vital role and all the researchers are attracted towards this research areas and the composite material give an outcome of very enriched material properties which will change our future and avoid so many disadvantages that are facing now here we are discussing about a composite material that is made of resign and hardener by mixing in the proportion of 90:10 percentages that is we add 90% of the resign to the 10% of hardener along with the filler material and horn powder.

Here we are interested in checking the material properties that are obtained during our experiment and see how they are differ from the previous ones like they are avoiding toxicity of the material or not and the strength both tensile and compressive and see how much the hardness is increased along with these we also do wear resistance test on the pin on disc experiment setup and obtain their results.

Keyword: Nanotubes, Nano-materials, Composite materials, Epoxy resins.

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Authors: **Dawit Wami Negera, Bhaskaran. J, Idiris Ilmi, Ramesh Babu Nallamothu**

Paper Title: **Characterization of Hybrid Composite Made of False Banana Fiber and Sisal Fiber**

Abstract:The importance of natural fiber reinforced composites is rapidly developing both in terms of engineering application and research field. The aim of this investigation is conducting an experiment to obtain the water absorption, physical and Mechanical properties of hybrid composite was fabricated from (False Banana Fiber) FBF and (Sisal Fiber) SF through general purpose (GP) resin-hardener mixture. The samples fabrication procedure was carried out by varying FBF and SF weight ratio to see its effect of mechanical and physical properties. Three samples (FBF: SF) i.e., 1:1 ratio, 3:1 ratio and 1:3 ratio with ply orientation as the reinforcement material. Then, tensile strength, compression strength, flexural strength water absorption percentage and density was conducted

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according to ISO and ASTM standards. The results show that the overall tensile strength shows a 1:3 ratio have shown 69 MPa which are higher than 1:1 ratio and 3:1 ratio. 3:1 ratio. In a compression strength test also 12.30 MPa which was higher result is obtained from 3:1 ratio. For both flexural(bending) strength and water absorption (for ordinary tap water and rainwater) test 380 MPa and (2.64 % and 3.07 %) respectively resulted, which are relatively less than from 1:1 ratio and 3:1ratio.

Keyword: Experiment, flexural strength, GP resin, Hybrid composite, Volume fraction

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Authors: **K. Keerthi, Y. Bhavya Sree, S. Ravi Teja, M. Sai Krishna Reddy, B. Jyothi**

Paper Title: **Design and Analysis of Higher Efficiency Non isolated DC-DC Converter for Electric Vehicles**

Abstract**:**The design and analysis of higher efficiency non isolated DC-DC converter for Electric Vehicles is presented. A Battery Charging System (BCS) plays a key role in achieving fast charging and higher efficiency. The BCS integrates acascaded DC-DC converter and a bidirectional PWM converter. In order to achieve more reliability and stiff voltage, aCascaded buck-boost converter which is partitioned with the help of a capacitor is integratedand to achieve higher efficiency with less number of switches, a bidirectional PWM converter used There are various PWM techniques, among them hysteresis and sinusoidal pwm technique are used. The output voltage obtained after both the operations (boost and buck) is given to the battery or load. Simulation is done in MATLAB and the results are analyzed with PI controller and without PI controller in this paper.

Keyword: Electric Vehicle,BCS,DC-DC converter, cascaded Buck-Boost converter, Bi-directional PWM converter, PI controller, MATLAB/ SIMULINK.

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547.	**Authors:**	**S.Vijayakumar , A. Thilagavathy, Dommaraju Digvijay, Cheekatimarla Abhishek, Bommi Reddy Maneesh Reddy**	
	Paper Title:	**An Improved Technique for Image Deblurring**	
	Abstract:The predicament in image deblurring, that is, the resurgence of an image against the noise along with the blur is an important issue in task dealing with image processing applications. .Owing to the deblurrng issue, many techniques related to regularization has found a concern in the recent years. In this paper, an efficient regularization method is put forward which utilizes the Lagrangian multiplier for the deblurring process. The major contribution of the proposed scheme is to determine the values of regularization approach towards attaining an better enhanced tradeoff among image resurgence and noise restraint using projection based image deblurring. **Keyword:**image deblurring,regularization, Lagrangian multiplier **References:** 1. Biemond, J, Lagendijk, R, and Mersereau.R, 1990, "Iterative methods for image deblurring," Pro. IEEE, vol. 78, no. 5, pp. 856–883. 2. Land weber,L, 1951 ,"An iteration formula for Fredholm integral equations of the first kind," American journalof Mathematics , pp. 615–624. 3. Qi Shan, JiayaJia, Aseem Agarwala,"High-quality motion deblurring from a single image", SIGGRAPH, 2008. 4. Jian-Feng Cai, Hui Ji, Chaoqiang Liu, Zuowei Shen, Blind motion deblurring from a single image using sparse approximation", CVPR, 2009. 5. O, Whyte, J, Sivic, A, Zisserman, J,Ponce,"Nonuniformed blurring for shaken images", in Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition, 2010.	**3231-3234**
548.	**Authors:**	**K. Jaiganesh, P. Arulkumar, S. Karunakaran, Md. Asif, N. Srinivas**	
	Paper Title:	**Improving the Efficiency of Solar Photovoltaic Cell by Decreasing Surface Temperature**	
	Abstract:Supply of energy is able to meet the increasing demand of today's people, which is major causes faced by world. The shortage of power can be reduced by using renewable energy resources. There are many renewable energy resources like wind, tidal and biomass energy, solar energy. The most significant form of renewable source is solar energy. It has undergone a research and development in the recent years and still it is developing. Solar photovoltaic cell is device used in solar energy conversion. It converts forthrightly electrical energy from the sunlight. The efficiency of PV cell is disturbed when rise in working temperature. Temperature on the panel is inversely proportional to the power generation. The main problem met by solar cell is temperature rise. Due to this temperature the energy conversion is low. By decreasing the temperature on the surface of PV panel to enhance the electric efficiency. So, in present-day different cooling methods have been projected and verified experimentally. Several techniques have been tried, mostly based on active water and air cooling, as these are simple techniques. The main objective of this system is to increase the solar panel efficiency using water cooling method of the panel gets cooled by exchange temperature. **Keyword:**Solar PV, Cell Temperature, efficiency improvement **References:** 1. Moharram, Khaled A., M. S. Abd-Elhady, H. A. Kandil, and H. El-Sherif. "Enhancing the performance of photovoltaic panels by water cooling." Ain Shams Engineering Journal 4, no. 4 (2013): 869-877. 2. Jaiganesh, K., and K. Duraiswamy. "Experimental study of enhancing the performance of PV panel integrated with solar thermal system." International Journal of Engineering and Technology 5, no. 4 (2013): 3419-3426. 3. Gardas, Bhaskar B., and M. V. Tendolkar. "Design of cooling system for photovoltaic panel for increasing its electrical efficiency." International J Mechanical Prod Engineering 1 (2012): 63-67. 4. Han, Kibong, Dongchan Shin, and Yongho Choi. "Efficiency of Solar Cell at Relatively High Temperature." Int. J. Emerging Technol. Adv. Eng 2 (2012): 607-610. 5. Jaiganesh, K., and K. Duraiswamy. "Improving the Power Generation from Solar PV Panel Combined with Solar Thermal System for Indian Climatic Condition." International Journal of Applied Environmental Sciences (ISSN 0973-6077). Volume 6 (2013).	**3235-3239**
549.	**Authors:**	**Jvs. Arundathi, K.V.V.Satyanarayana**	
	Paper Title:	**In Retrospect of Cloud Security Issues**	
	Abstract:Popular computing technologies like Distributed ,Parallel ,Grid etc., have already reached their peaks in providing services and now a hybrid aspect is capturing the focus which is a combination of traditional computing technology and network technology and termed to be "Cloud Computing ".A desperate demand for data sharing and handling enterprise applications have called upon for cloud computing .A blocking wind for leveraging cloud computing technology is the aspect of security .But the passion towards adopting cloud have overridden the security threats. This paper glances over various security threats, risks, challenges along with their resistance capabilities to overcome the vulnerabilities in the cloud and also some of the encryption techniques that are used in the cloud. **Keyword:**Encryption, Threats, Attacks ,cloud computing **References:** 1. K.H.A-Ai-shqueerat,et al.,"Cloud Computing Security Challenges in Higher Educational Institutional –A Survey" IJCA – volume 161,No 6, march 2017 page no22- 29. 2. Gururaj Ramachandra et al., "A Comprehensive Survey on Security in Cloud Computing", Elesevier – procedia Computer Science(2017) pp no : 465-472.	**3240-3245**

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Authors: **Saranya, Shri Vindhya, Pushpa B**

Paper Title: **E-Blood Bank Application using GPS and Cloud Computing**

Abstract: In numerous elective cases, similar to mishaps, there might be Associate in Nursing basic might want for explicit blood gathering. When contrasted with the extent connection of interest of the blood awfully less amount of people blessing the blood, hence the need of the blood will increment. Blood Donation and intromission Services (BTS) are essential for sparing individuals' lives. Blood donation centers endure visit lack of blood; in this manner, commercials are frequently observed on informal communities encouraging sound individuals to blessing blood for patients UN organization frantically need intromission. The E-Blood Bank is Associate in Nursing robot application that allows the client to go looking contributors of explicit individuals bolstered their area, in a short measure of your time. This application won't exclusively demonstrate the rundown of contributors anyway also facilitated with trailing the circumstance of the close to benefactors and giving SMS cautions to them, all together that the patient will be presented with blood a little while later. in order to blessing blood through the application, one must enroll himself by giving all the ideal subtleties. These subtleties ought to be substantial and valid all together that they'll be caterpillar-followed at the hour of crisis. when all the learning is acknowledged by the Admin, the benefactor will be extra to the rundown of enrolled contributors. GPS module is encased to discover the givers. Accordingly, exclusively enrolled individuals, UN office need to blessing blood, ready to get to the administration. Cloud-basically based administrations are prove horribly significant in basic blood conveyance as they care ready to focal and quick access to giver's information and site from wherever and whenever.

Keyword: Cloud Computing, GPS, robot Application..constraints.

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Authors: **M.Vasumathy, A.Punitha, R.P.Mahesh**

Paper Title: **Real-Time Waste Controlling with ISB**

Abstract:Nowadays, dustbins placed at the road are stuffed quickly due to the massive quantity of wastages in cities. Earlier waste controlling frameworks fundamentally dependent on the assortment of blended/arranged waste and moving it far to transfer zones has a critical negative effect on the earth and people. Wastages are generated from three varieties of sources like domestic, commercial and industrial. There is no quick replacement for the filled dustbin. This creates an unhealthful condition for all living things and spreads the bad smell around the streets. By doing so, there may be a probability to spread diseases. In order to avoid such situations, ISB (IOT based smart Bin) is to be implemented in cities of India. Smart Bin is to be placed at each street by tracking the level of garbage through the internet.

Keyword: Smart Bin, IoT, Waste Controlling, Garbage Collection, Arduino.

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Authors: **A.Kirthika, E.L.Dhivya Priya, S.Thenmozhi, Z.Ahamed Yazer, S.Ganesh Prabu**

Paper Title: **CDMA design for on-Chip Communication Network**

Abstract:Network on chip is used to implement the communication features on a Silicon chip. To increase the performance of Code Division Multiple Access (CDMA) Network On Chip (NOC) ,a Standard-basis (SB) Method is Proposed.In this Method, a source code from various transmitters are encoded separately using an orthogonal code . These coded data are Combined together by an Exclusive-OR operation and it is then sent to their destinations through the communication interface.By Performing AND operartion between original coded data and their Orthogonal code, chip sequence can be obtained. The Standard basis (SB) encoding and decoding technique is compared with the Walsh Based (WB) code in terms of power, area and throughput and the Proposed Standard basis encoding and decoding technique is proven to be more efficient.

Keyword:CDMA,CODEC,SOC,NOC,Encoder,Decoder, Walsh Code

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Authors: **P.Yoganandhini, G.Prabakaran**

Paper Title: **Market Basket Analysis with Enhanced Support Vector Machine (ESVM) Classifier for Key Security in Organization**

Abstract:Market Basket Analysis is considered to be one among the highly popular and efficient sort of data analysis exploited in the marketing and retailing field. The objective of market basket analysis lies in deciding the products purchased together by the customers. Its name has originated from the concept of customers filling into a shopping cart everything of all they had purchased (a "market basket") while doing shopping in the grocery. Having a knowledge of the products that customers buy in group can be quiteusefulfor a retailer or to any other organization. A store could make the best use of this information to keep the products that are often sold together in the same place, whereas a catalog or World Wide Web (WWW) merchant could utilize it for deciding the structure of their catalog and order form. Since several applications such as market basket analysis, fraud detection in web, medical diagnosis, census data, Customer Relationship Management of business that makes use of association rules exists, the process involving Decision making can be improved. Security is also regarded to bean important facet for transactions done individually and frequent itemsets for database that are horizontally

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partitioned. In order to render security for lastly bough often used itemsets for transaction purposes, this research work introduces a novel key security algorithm that uses RSA cryptographic technique which is classifier based. The classifier makes use of information about several often utilized itemsets and it provides a key value to the actual company. For instance, in case if there are any reliance users, only the valid users can obtain that market info. The rest of the users belonging to the reliance organization are not allowed to select the data's key value. First, the frequent itemsets are mined with the help of association rule mining employing Probabilistic Graphical Model techniques. Then the Enhanced Support Vector Machine (ESVM) classifier checks the key values of the mined frequent itemsets.

Keyword: Association rules, Customer relationship management, ESVM, Frequent item set mining ,key values, Market basket analysis.

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Authors: **Syed Faiz Ahmed, Yarooq Raza, Abadal Salam T. Hussian, M. Kamran Joyo, Asadullah Shah**

Paper Title: **Sliding Mode Control for 2 Degrees of Freedom Upper Limb Rehabilitation Robotic System under Uncertainties**

Abstract: Rehabilitation of patients suffering from post-stroke injuries via robots is now adapted word widely. The aim of this therapy is to restore and improve the dysfunction and the performance of the affected limbs doing repetitive tasks with the help of rehabilitation robots, as robots are best way to perform repetitive task without any monotony failure. Control of these rehabilitation robots is an important part to consider because of nonlinearity and uncertainty of the system. This paper presents nonlinear sliding mode controller (SMC) for controlling a 2 degrees of freedom (DOF) upper limb robotic manipulator. Sliding mode control is able to handle system uncertainties and parametric changes. One drawback of using SMC is high frequency oscillations called as chattering. This chattering can be reduced by using boundary layer technique. Experiments have been carried out under perturbed conditions and results have shown that SMC performs well and remain stable and thus proves to robust controller for upper limb robotic manipulator.

Keyword: Rehabilitation robots; Non-linearities; Sliding Mode Control; Chattering; Boundary Layer Technique;

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Perturbed Condition.

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Authors: **Megha Chaudhary, Gyanendra Nath Tiwari, Sujeet Kumar**

Paper Title: **Impact of Stem Education on Academic Achievement of Elementary School Students' of Delhi**

Abstract:STEM education does not follow traditional teaching methods but is based on interesting and critical thinking activities. It is important to increase students' interest and awareness of STEM educational activities to encourage them to learn STEM. STEM-based education can help students or children learn and participate in activities based on real-life experiences. We need to let them know that what they learned in STEM today is not only building their own future, but also the cornerstone of the country.

Since no study has been done to know the difference in the academic achievement and basic attitude of the students towards this approach based on gender school types (government and private); before and after the conduction of STEM programme this study will give STEM practitioners strategies to design and integrate STEM

content purposefully for the students ; so that students can develop a positive attitude towards STEM programme which will in turn help them to acquire higher academic achievement and make study more effective. This study will also through light on the teachers to make STEM programme more effective. This study will also be of immense help to the school authorities while opting for better STEM programme.

Keyword: Blended learning, effective teaching, motivational skills, engaging classroom, better learning environment, STEM approach.

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Authors: **Santosh Chede, Vyenktesh Girhepunje**

Paper Title: **Smart ECG Monitoring Wireless System**

Abstract:Under advanced patient diagnostic approach, expensive wearable Holter Electrocardiography unit is used to record cardiac parameters for 24 or 48 hours. This may cause inconvenience to patient due to weight, dangling wires and taxing additional time to transfer data to the hospital from patient's location. IOT plays a crucial role to read and transfer ECG data from remote places effectively for individuals and more. In this paper low cost, low power, portable ECG monitoring system is designed and experimented. Hardware-software co-design realizes real-time, wireless, acquisition of cardiac parameters. AD8232 is used to capture cardiac signals and processing is realized using MSP432P401R microcontroller and IOT. Under the event driven approach, in case of specific abnormality, Electrocardiogram (ECG) signal is transmitted, otherwise no transmission is allowed in order to reduce power consumption.This approach increases battery life time and reduces complexity.

Keyword: Telemedicine, ECG transmission, ECG Instrumentation, MSP432P401R..

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Authors: **Nor Dyana Zakaria, Izzati Zahidah Abdul Karim, Azimah Ahmad, Md. Sohrab Hossain, Venugopal Balakrishnan**

Paper Title: **Effect of Temperature on 60nm and 100nm Nanosphere Size Standard using Dynamic Light Scattering**

Abstract:It is difficult to use kinetic motion as a measurement tool without temperature affecting the results. In this study, the size of a known nanosphere was used to monitor the effect of temperature towards particle size determination using dynamic light scattering principles. Temperature deviations are always picked up by size measurement using the principle of Brownian motion. The particle size of 60nm and 100nm polystyrene latex nanoparticles in 10mM NaCl solution was measured at four different temperatures set points of 20, 25, 30, 35 and 40°C using dynamic light scattering mechanism. As a result, the size of polystyrene latex nanoparticles was increased with the increases of the temperature. Therefore, for particle size analysis using dynamic light scattering mechanism the temperature of the test must be maintained at 25°C in order to obtain accurate measurement.

Keyword: Particles size, temperature, dynamic light scattering.

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Authors: **Spoorthy S**

Paper Title: **EEG Based Headband for Emotion Detection**

Abstract:EEG is the term used for recording the brain electrical activity. In Electroencephalography, the encephalon means brain. EEG measures electrical activity generated by thousands of neurons that exists in human brain. The brain electrical activity is measured in voltages. This paper is focused on recognizing emotion from human activity, measured by EEG signals. Making the computer more empathic to the user is one of the aspects of affective computing. With EEG-based emotion detection, the computer can actually take a look inside user's head to observe their mental state. A low power, low noise and high sensitive analog signal from brain decoded into filtered digital output. The decoder picks a low amplitude and a microvolt signal from brain and decodes it into a filtered and amplified output. As of thelatestattentiongiving fromexaminationteam in creatingsensitivecommunicationamong human beings and peripheral device, the proof of identity of emotive state of the previousdeveloped a necessity. Electro-encephalography establishedimportantconsideration from scientists, becausethey establish modest, inexpensive, transportable, and easily solving theidentification of mind states in this paper.[2] In this paper, it provide a comprehensive overviewfrompresent works in emotion detection using EEG signals.

Keyword: Emotions, Electroencephalography, Identification, Recognition.

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Authors: **Mohammed Mahmood Ali, Mohammad S. Qaseem, Ateeq ur Rahman**

Paper Title: **Rumour Detection Models & Tools for Social Networking Sites**

Abstract:Efficient utilization of social networking sites (SNS) had reduced communication delays, at the same time increased rumour messages. Subsequently, mischievous people started sharing of rumours via social networking sites for gaining personal benefits. This falsified information (i.e., rumour) creates misconception among the people of society influencing socio-economic losses by disrupting the routine businesses of private and government sectors. Communication of rumour information requires rigorous surveillance, before they become viral through social media platforms. Detecting these rumour words in an early stage from messaging applications needs to be predicted using robust Rumour Detection Models (RDM) and succinct tools. RDM are effectively used in detecting the rumours from social media platforms (Twitter, Linkedln, Instagram, WhatsApp, Weibo sena and others) with the help of bag of words and machine learning approaches to a limited extent. RDM fails in detecting the emerging rumours that contains linguistic words of a specific language during the chatting session. This survey compares the various RDM strategies and Tools that were proposed earlier for identifying the rumour words in social media platforms. It is found that many of earlier RDM make use of Deep learning approaches, Machine learning, Artificial Intelligence, Fuzzy logic technique, Graph theory and Data mining techniques. Finally, an improved RDM model is proposed in Figure 2, efficiency of this proposed RDM models is improved by embedding of Pre-defined rumour rules, WordNet Ontology and NLP/machine learning approach giving the

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precision rate of 83.33% when compared with other state-of-art systems.

Keyword: Social Networking Sites (SNS), Rumour Detection models (RDM), Pre-defined rules, WordNet Ontology.

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Authors: **B.Rahul, P.SheelaGowr, M.Latha, S.Regina Shereen, M.Vishal**

Paper Title: **Blockchain Based E-Voting System**

Abstract:Building an electronic casting a ballot framework that fulfills the lawful necessities of administrators has been a test. An appropriated record innovation is an energizing mechanical headway in the Information Technology world. This paper intends to assess the utilization of block chain as administration to actualize dispersed electronic casting a ballot framework. The paper elicit ate the prerequisites of structure electronic casting a ballot framework and distinguishes the lawful and mechanical constraints of utilizing block chain as an administration for acknowledging such frameworks. The paper assesses a portion of the prominent block chain systems that offer block chain as aadministration. This paper proposes a novel electronic casting a ballot framework dependent on block chain that tends to all constraints. All the more for the most part this paper assesses the capability of dispersed record advancements through the portrayal of a contextual analysis, to be specificthe procedure of a race and actualizing a block chain-based application which improves the security and diminishes the expense of facilitating an across the nation decision.

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Keyword: Block chain, Voting System, Distributed ledger technologies.

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Authors:	**Vladimir Ivanovich Fisinin, Irina Pavlovna Saleeva, Valery Semenovich Lukashenko, Larisa Alexandrovna Ilyina, Andrey Georgievich Koshchaev, Yuri Andreevich Lysenko**
Paper Title:	**The Effect of the Hydrolyzates of Keratin- and Collagen-Containing Wastes of Poultry Processing in the Diets for Broilers on the Cecal Microbial Community**

Abstract:The use of new protein-rich animal-derived ingredients in the diets for modern commercial poultry is an urgent problem for the researchers. The wastes of poultry slaughter and processing can be used for the production of concentrated feed-grade protein ingredients after the short-term and intense thermal treatment in the thin layer and subsequent enzymatic hydrolysis. These wastes contain primarily keratin and collagen. The aim of the study presented was the investigation of the effects of these hydrolyzates of keratin- and collagen-containing wastes in diets for broiler chicks on the cecal microbial community. The study was performed in the vivarium of All-Russian Research and Technological Institute of Poultry on four treatments (50 birds per treatment) of Ross-308 broilers reared on the floor to 38 or 49 days of age. Control treatment 1 was fed a diet with fishmeal (67% of crude protein) as a source of animal protein. Treatment 2 was fed the same diet with keratin-derived additive (85.7% of crude protein) as a substitution for the fishmeal; treatment 3 was fed the same diet as treatment 2 additionally supplemented with a probiotic containing live cultures of Bacillus subtilis, Lactobacillus paracasei and Enterococcus faecium; treatment 4 was fed the same diet as treatment 1 with a mixture of keratin- and collagen-derived additives (67.1% of crude protein) as a substitution for the fishmeal and the same probiotic as treatment 3. The qualitative and quantitative composition of cecal microbiota was determined via molecular genetic terminal restriction fragment length polymorphism (T-RFLP) technique. It was found that keratin- and collagen-derived feed additives rendered no negative impact on the intestinal microbiota. Cecal concentrations of beneficial (normal) species in the treatments fed experimental diets were higher in compare to the control treatment.

Keyword: Broiler Chicks, Cross Ross-308, Keratin- And Collagen-Derived Feed Additives, Enzymatic Hydrolysis, Cecal Microbiota.

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Paper Title: **The Curiosity of Education Faculty Students in Learning**

Abstract:In this study we described the curiosity of education faculty students in learning based on aspects of interest, novelty-seeking, the openness of experience and exploration. We used cross-sectional survey with a quantitative approach to collect data and to measure curiosity in learning we used questionnaire. The participants were 286 spread across 9 study programs in the faculty of education. The results showed that students sometimes have a curiosity in learning. This condition explained the curiosity of students in learning tends to be in the medium category and tends to be low because the number of students who are rare and never curiosity in learning more than students who often and always curiosity in learning.

Keyword: Curiosity, interest, novelty-seeking, the openness of experience and exploration

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563.	**Authors:**	**Dwi Aji Budiman, Irwan Fathurrochman, M. Rusni Eka Putra, Syaiful Bahri**
	Paper Title:	**The Cultural Value and Character Education of Full Day School Implementation in Indonesia**

Abstract:This qualitative paper investigated how full-day school is viewed from the aspect of character education and the formation of cultural values for students. The results were obtained that the learning process by extending learning time is an activity in instilling character education through interaction between teacher, student, and the school environment. Character education is carried out through extracurricular activities, carrying out intense and ongoing communication between teachers and students and organizing routine diversity activities. The implementation of the full-day school policy is also an effort to encourage awareness of students through cultural activities as a step to instill concern and love for the values of local traditions in the city of Bengkulu by conducting music, dance and other creative activities.

Keyword: Cultural Values, Character Education, Full Day

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Authors: **A. S. Mohd Rafie, A. M. Magaidi, O. F. Marzuki**

Paper Title: **Aerodynamic Performance of Biomimicry Snake-Shaped Airfoil**

Abstract:The cross-section shape and proportionality between geometrical dimensions are the most important design parameters of any lifting surfaces. These parameters affect the amount of the aerodynamic forces that will be generated. In this study, the focus is placed on the snake-cross-section airfoil known as the S-airfoil. It is found that there is a lack of available researches on S-airfoil despite its important characteristics. A parametric study on empty model of the S-airfoil with a cross-section shape that is inspired by the Chrysopelea paradise snake is conducted through numerical simulation. Simulation using 2D-ANSYS FLUENT17 software is used to generate the lift and drag forces to determine the performance of airfoil aerodynamic. Based on the results, the S-airfoil can be improved in performance of aerodynamic by reducing the thickness at certain range, whereby changing the thickness-to-chord ratio from 0.037 to 0.011 results in the increment of lift-to-drag ratio from 2.629 to 3.257. On other hand, increasing the height-to-chord ratio of the S-airfoil will increase maximum lift coefficient but drawback is a wide range of angles of attack regarding maximum lift-to-drag ratio. Encouraging results obtained in this study draws attention to the importance of expanding the research on S-airfoil and its usage, especially in wind energy.

Keyword:snake-cross-section airfoil, parametric study, CFD simulation, lift force coefficient, aerodynamic performance.

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565.

Authors: **Sanjay Mitkari, B P Ronge**

Paper Title: **Application of Solar Absorption Refrigeration in Milk Pasteurization**

Abstract:Pasteurization coupled with refrigeration makes milk safe for human consumption and also extends the shelf-life of the milk. In a milk processing plant, hot water is used as heating medium and chilled water as cooling medium .In milk pasteurization heating and cooling process of milk was integrated by using plate heat exchangers known as regeneration section which saves 82.36% energy. Refrigeration plant for milk processing contributes approx. 30 % of total electricity load. This electricity load can be reduced by using vapor absorption refrigeration system (VARS) which requires heat input in the form of hot water. In the present study the VARS uses 1, 1, 1 tetrafluroethane (R134a) as refrigerant and n,n-dimethyl formamide (DMF) as absorbent. The COP of the system was obtained between 0.48 to 0.71 and refrigeration capacity varied from 0.69 kW to 2 kW. The absorption refrigeration system requires 1.4kW of hot water per kW of refrigeration capacity. Thus the integration of solar energy with absorption refrigeration plays important role in energy optimization and sustainable development in milk processing industry.

Keyword: Pasteurization, Vapor absorption refrigeration system, Coefficient of performance, Dimethyl formamide, tetrafluroethane.

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Authors: **Anughna N, Tanuja G, Sunita panda**

Paper Title: **Cognitive Radio Techniques over Conventional Radio Systems**

Abstract:Cognitive Radio (CR) has advanced like a brilliant innovation for crossing over the divergence between the accessibility and assignment of the radio recurrence range among various clients. It can change its transmission parameters dependent on the apparent accessibility of the range groups in its working condition. Cognitive radio (CR) innovation vows to be one potential answer for take care of the issue of absence of recurrence range, by permitting access of unlicensed clients in authorized groups, in view of a shrewd methodology and without meddling with the authorized user(PU). Subjective Radio has developed as a savvy innovation in crossing over the divergence between the accessibility and distribution of the radio recurrence range among numerous clients. This paper shows an outline of the spectrum holes in the licensed bands, the concepts of CR, types, spectrum holes, its features and sensing methods the transceiver details and it compares with conventional radio in terms of performance parameters such as interference, operating frequency, security, spectrum utilization, reliability, efficiency and power consumption

Keyword: Software Defined Radio (SDR), Cognitive Radio (CR), Dynamic Spectrum Access(DSA).

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Authors: **Manu Raj Moudgil, Anil Kumar Lamba, Er.Priya Gupta**

Paper Title: **Assessment of the Various Techniques and Models Used To Secure the Applications of Internet of Things**

Abstract:In The Today's Environment Digitization Plays A Vital Role In Daily Aspects Of Life And Mostly All The Appliances Are Digitally Connected And Smart In Operation That Grows Rapidly In All Over The World. For This, Iot Frameworks Is Mainly Applied And Utilized To Build Different Types Iot Applications. During The Formation Of Applications In Iot, Different Types Of Rules, Standards And Procedures Are Used Which Is Embedded In The Iot Framework. While Implementing The Privacy And Security In The Applications Needs A Variety Of Procedures And Mechanisms For Confirmations That All The Things Are Properly Working And Threat Avoidance. This Paper Focuses On Assessment Of Various Security Mechanisms Which Can Be Applied To Build An Iot Application. Also, The Pros And Cons Of Each Technique In The Domain Of Iot Application.

Keyword: Internet Of Things, Security Architecture, Security Mechanism

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Authors: **Jihad Chaker, Mohamed Khaldi**

Paper Title: **A New Metadata Scheme for Multimedia and Intelligent Learning Objects**

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Abstract:The purpose of this contribution is to improve the interoperability of educational and multimedia metadata in the context of a new application profile based on the LOM standard, without affecting their educational purpose. our metadata analysis led to the creation of new elements and new categories by strengthening the semantic representation of pedagogical objects and the different structures of multimedia documents, namely: spatial, temporal and hypermedia structures, this proposal also includes the characteristics of description visual.

This contribution was essential given the absence of a metadata schema capturing multimedia and educational characteristics at the same time. the choice to gather descriptive elements based on the LOM standard, has proven to be wise since this standard is the most recognized and known in the field of eLearning.

Throughout this article, we cite the advantages of pedagogical use of Multimedia, more specifically in eLearning. We then present intelligent learning environments on the one hand and educational objects on the other. Finally, we fix the new elements of our application profile, the latter is crowned with a semantic description in the form of an ontology.

Keyword: Multimedia content, Smart learning objects, Metadata interoperability, Application profile, Ontology, Multi-agent Systems, Ontology matching, E-learning standards.

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569. **Authors:** **R Karthik, K Jyothi, B Annapurna, B. Anusha, V Rajitha**

	Paper Title:	**Design and Implementation of Smart Helmet and Intelligent Bike System**

Abstract:A smart helmet that covers and protects the head from any damage in driving a two-wheeler vehicle. The main aim of our project is to provide safety for a rider and to make life of citizens more secure while driving a vehicle. The alcohol sensor is used to detect the alcohol content in riders breath. If rider is in drunk state, without wearing the helmet the bike will not start. In this situation, the rider should have to wear the helmet then only the rider can start the bike. Zigbee module acts as transceiver to communicate between the sensors and control devices. The respective person of registered number can know the details whether the rider was drunk or not. The main advantage is to avoid the two-wheeler accidents and drunk drive cases. This project mainly focus on wearing of helmet or not.

Keyword: Smart helmet, Intelligent bike system, Arduino.

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	Authors:	**K. Prashanth Reddy, Bhramara Panitapu, A. Kalyan Kumar, K. Sunil Kumar Reddy, Ramesh Chilkuri**
	Paper Title:	**Film Coefficient Optimization for Al2O3 (50%) – CuO (50%)/ Water Hybrid Nanofluid using Taguchi Technique**

Abstract:To have the maximum benefits of nanofluid for high film coefficient, like hybrid composite materials in the material's revolution, the hybrid nanofluid was prepared and its performance was realized by experimentation. In this investigation, the prepared Al2O3 (50%) – CuO (50 %)/water hybrid nanofluid was used as a coolant for making pen barrel in injection moulding machine. For experimentation, the three process parameters viz., Volume Fraction (VF), Volume Flow Rate (VFR) and Temperature (Temp) were controlled and optimized by using Taguchi's L9 orthogonal array to yield the maximum film coefficient. To optimize it, total nine different experiments were conducted by controlling these factors. All these three parameters were considered in three levels. Regression equation was established to predict film coefficient by incorporating independently controllable process parameters. Based on the optimization result, it was found that the high film coefficient was achieved at 0.2 %, 6 LPM and 35 °C of VF, VFR and Temp of hybrid nanofluid respectively.

Keyword: Al2O3- CuO, hybrid nanofluid, film coefficient, optimization

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Authors: **A. Mohanarathinam, Kamalraj Subramaniam, Prakash NB, Hemalakshmi GR, G.K.D.Prasanna Venkatesan**

Paper Title: **An Image Based Encryption Algorithm for Multimedia Applications**

Abstract:Multimedia is the most popular domain in recent era, where it handles distinct information such as text, image, music, video and etc. The security and channel capacity are the challenging parameters in real time multimedia applications. In this research work, an image based double encryption scheme has proposed along with DCT compression technique. The input image is encrypted by Chaotic Baker map and Advanced Encryption Standard (AES) algorithms. The encrypted image is compressed by DCT compression technique. The PSNR and MSE of proposed double encryption method attains 77.1617 and 0.0013 respectively. The experimental results are compared with the individual encryption methods shows that the performance of Double encryption is superior to the other existing methods.

Keyword:DCT compression, Advanced Encryption Standard, Chaotic-Baker Map, PSNR and MSE.

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Authors: **R Vadivelu, G Santhakumar**

Paper Title: **A Novel Planar Monopole Antenna with Truncated Ground Plane for Wireless Communication**

Abstract:In this paper, triple-band planar monopole Microstrip Antenna intended for different applications like Bluetooth, Wi-Fi, Wireless LAN (2.4 GHz), LTE 2500 band, WiMax (3.5 GHz), and a piece of C-band applications. The reception apparatus has been intended to work at different recurrence groups, for example, 2.25 – 2.5 GHz, 3.32 – 3.97 GHz, and 5.90 – 8.67 GHz individually. The proposed receiving antenna comprises of a planar monopole reception apparatus imprinted on RT/duroid 5880 substrate (through a general permittivity of 2.2 and loss tangent of 0.0009) and the base side printed with a truncated ground. The planar monopole reception apparatus has been viably structured and reproduced by utilizing Ansys-HFSS design tool. The component of the proposed receiving antenna is 40 × 28.4 × 1.575 mm3. The reenacted outcome shows return loss, voltage standing wave ratio (VSWR), radiation pattern, and gain of the Antenna. Also, the truncated ground plane structure is straightforward, vigorous and possesses little space, building it appropriate for different applications.

Keyword: Microstrip monopole antenna, impedance transfer speed, return misfortune, VSWR and radiation design.

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Authors: **N Prabhu Kishore , Siva Kumar Ellapan, Alekhya N**

Paper Title: **Linear Static Examination of a Composite Base Structure**

Abstract:The base structure of the spacecraft connects the satellite with the launch vehicle and it is the main load bearing member. To satisfy the structural requirements, advanced materials are used commonly to manufacture the mechanical load bearing members. The paper deals with the analysis of the base structure of the spacecraft using a combination of metal with the composite materials like CFRP (Carbon Fiber Reinforced Plastic). Analysis is done for base structure of the spacecraft by varying materials in ANSYS 14.5 for each ring. The variation of the materials is done on the insert ring of the base structure along the height in five different ways. The analysis done suggest that the combination of Ti and CFRP ensures lower deformation and weighed 7.34 kg achieving a mass saving of 35% on the existing structure.

Keyword:ANSYS,Base Structure, CFRP, Linear static analysis

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Authors: **Karuna Grover, Rajesh Mehra**

Paper Title: **Face Spoofing Detection using Enhanced Local Binary Pattern**

Abstract:Among various biometric systems, over the past few years identifying the face patterns has become the centre of attraction, owing to this, a substantial improvement has been made in this area. However, the security of such systems may be a crucial issue since it is proved in many studies that face identification systems are susceptible to various attacks, out of which spoofing attacks are one of them. Spoofing is defined as the capability of making fool of a system that is biometric for finding out the unauthorised customers as an actual one by the various ways of representing version of synthetic forged of the original biometric trait to the sensing objects. In order to guard face spoofing, several anti-spoofing methods are developed to do liveliness detection. Various techniquesfordetection of spoofing make the use of LBP i.e. local binary patterns that make the difference to symbolise handcrafted texture features from images, whereas, recent researches have shown that deep features are more robust in comparison to the former one. In this paper, a proper countermeasure in opposite to attacks that are on face spoofing are relied on CNN i.e. Convolutional Neural Network. In this novel approach, deep texture features from images are extracted by integrating the modified version of LBP descriptor (Gene LBP net) to a CNN. Experimental results are obtained on NUAA spoofing database which defines that these deep neural network surpass most of the state-of-the-art techniques, showing good outcomes in context to finding out the criminal attacks.

Keyword: Biometric, Convolutional Neural Networks, Face recognition, Spoofing attacks.

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Authors: **G. Madhavi Latha, G. Chandraiah, S.Varadarajan, T.Sreenivasulu Reddy, P. Satish Kumar**

Paper Title: **Spectral Analysis of MST Radar Signal using Maximum Likelihood Estimation Algorithm**

Abstract:In this work, we propose Maximum likelihood estimation of low- rank Toeplitz covariance matrix (MELT) with reduced complexity algorithm for computing the power spectral density of mesosphere-stratosphere-troposphere (MST) radar data. MELT is designed based on the method of majorization-minimization and it is an iterative algorithm to update the powers in each successive step. We tested MELT algorithm for complex signal, which contain multiple frequency components in existence of different noise conditions. For simulated complex data, it can be seen that MELT works much better for low Signal to Noise Ratio (SNR) conditions and also effectively detects the frequency components with a fine resolution in the existence with high noise impact. At last, MELT algorithm is applied to the radar data received from MST radar established at National Atmospheric Research laboratory (NARL), Gadhanki. MELT algorithm estimates the accurate Doppler spectra and thus in turn, estimate the wind parameters using Doppler profiles. For the purpose of validation, the obtained radar results through MELT are compared with the Global Positioning System (GPS) radiosonde.

Keyword: Majorization-Minimization (MM) technique, Maximum-likelihood estimation (MLE), Toeplitz matrix, Spectrum estimation, MST Radar and GPS radiosonde.

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Authors: **M.Sakthivel, S. Aravind, R.G.Dhilip kumar, S.P.Kanniyappan**

Paper Title: **Effect of Combination of Alumina-Silica Rich Minerals with Fly Ash on Structural Behaviour of the Basalt Fibre Reinforced Geopolymer Concrete**

Abstract:Cement production is one of the major C02 emitter which contributes around 8% of the world’s carbon dioxide emissions. So the Engineers are in the need of developing alternate material for cement to reduce the effect of vulnerable climatic changes in the world. This paper aims at presenting the experimental study on effect of combination of silica rich minerals with fly ash based geopolymer concrete. Fly ash was found to be successful in enhancing the performance of geopolymer concrete. The Utilization of more industrial wastes will promisingly

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contribute for reducing the environmental pollution. To determine the effective admixture combination with fly ash in geopolymer concrete, industrial wastes such as silica fume, GGBS, Metakaolin, palm oil fly ash were used. The concrete mixes were designed with 60 percentile of fly ash and 40 percentile of other industrial wastes to replace the cement in Geopolymer concrete. The Concrete specimens were casted and cured at different conditions namely Oven curing, Steam curing and sunlight. The Compressive, tensile and flexural strength behaviors were determined for the designed concrete mixes and the results were presented.

Keyword: Basalt fibre, curing, fly ash, Geo-polymer, GGBS, Metakaolin, POFA, Silica fume.

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577.	**Authors:**	**Elmer B. Dollera, Christine France C. Dablo, Godofredo B. Dollera, Jr., Hermes O. Nasara, Kyle Bryan A. Maquiso**
	Paper Title:	**Choke Point in Mini Expansion Device for the Development of Portable Vaccine Kit**

Abstract:Vapor compression refrigeration system is substantial to human comfort and needs that contributes to the progress mainly in agriculture, food preservation and in medical application. One of the applications that this study focused on is the study of the choke points in mini expansion device for the development of portable vaccine carrier kit. This study utilized a vapor compression refrigeration system, and aims to improve the system operation of a small-scale vapor compression refrigeration system by using spirally-arranged capillary tubes with five(5) different hydraulic diameters, namely; 0.20mm, 0.25mm, 0.30mm, 0.35mm and 0.40mm. A 1/8 horsepower vapor compression refrigeration system of a water dispenser is used as an experimental rig that supply the required refrigerant flow on the spirally- arranged expansion device. Guitar strings are used to reduce the hydraulic diameter of the commercially available capillary tubes. With the inserted guitar strings, the five(5) different hydraulic diameters in this study would be connected to the experimental rig. The data gathering method is developed by using a data logger and the fabricated spirally-arranged capillary tubes connected to the experimental rig. The determination of its lengths of choke point and the behavior of the pressure drop is measured during the different trials used for every hydraulic diameter of the spirally-arranged capillary tube. The mathematical equation that correlates the hydraulic diameters of the capillary tubes and their corresponding choke points is represented by the equation y = -1,836.0x2 + 2,319.0x-1 - 1.7860, where y is the distance of the capillary tube choke point and x is the hydraulic diameter of the fabricated spirally-arranged capillary tubes. This equation correlates the hydraulic diameter of a capillary tube to its corresponding choke point length with a value of R2 = 0.9947.

Keyword:hydraulic diameter, capillary tube, distance of choke point, pressure drops.

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Authors: **Prabhu. L, Chandan jyoti patra, Raj Jawahar, Jishnu P Sajeev, Dildas, Mohammed Anas**

Paper Title: **Measurement of Process Parameters in Magneto-Rheological Fluid Assisted Cylindrical Surface Nano Finishing Process using Grey Relational Methods**

Abstract:Techniques for the analysis of machining parameters on cylindrical surface finish of 304L stainless steel with multiple response. It depends on quadratic pattern - (GRG) Grey Relational Grade is proposed in this paper. In this work, optimized the machining parameters such as working gap, Work-Piece Speed (WPS), and wheel speed rate and flew value are concluded the various responses such as Material Removal Rate (MRR), Normal Force (F-N), and surface roughness (Ra). Optimal process parameter is determined by Taguchi concept utilizing the GRG the performance index. And value of GRG used to recognize parameters optimum level. A antecedent of Variance (ANOVA) is used to resolve the augmentation of aspect r.

Keyword: Cylindrical surface finish, magneto rheological fluid, AISI 304L austenitic stainless steel, genetic algorithm, ANOVA, microstructure study.

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Authors: **J. Manikandan, V. Mangaiyarkarasi, P.Subramanian**

Paper Title: **Performance Examination of OFDM Modulation Techniques in LTE 4G**

Abstract:The digital modulation methods are being chosen in high data rate systems as Long Term Evolution (LTE) and LTE-A. Quadrature Phase Shift Keying (QPSK) and Binary Phase Shift Keying (BPSK) is the simplest form of the PSK with double carrying capacity when compare to the other traditional techniques in modulation. In conventional method the performance was analyzed in MIMO .In this paper proposed the performance analysis of BPSK and QPSK modulator and demodulator in LTE 4G system models under the Additive white Gaussian Noise (AWGN) and Rayleigh fading by comparing the Bit Error Rate (BER). From the analysis, compare to BPSK QPSK has good BER. Using the MATLAB Simulink tool Implementation is performed.

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Keyword:LTE, BPSK, QPSK, simulink.

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Authors: **S. Amarnadh, P. V. G. D. Prasad Reddy, N. V. E. S. Murthy**

Paper Title: **Freehand Sketch-Based Authenticated Security System using Convolutional Neural Network**

Abstract:An Authenticated Security System is a highly desired feature. In this paper, a FreeHand Sketch-based Authentication Security strategy is proposed for authentication purposes by allowing a user to choose one label from a collection of different labels and asking him to sketch the corresponding image for the selected label for registration to avoid mischievous registration and the sketched image gets preprocessed using adaptive threshold with Gaussian mixture and then predicted with a trained Convolutional Neural Network(CNN) data model to generate the necessary image label. The produced image label will compare with selected image label. If both are same then the details will store in the system database. The user gets login with his/her authorized details with sketch based image password. The image password gets preprocessed using adaptive threshold with Gaussian mixture and then predicted with a trained CNN model to produce the image name. The produced image name will compare with the system database for authentication. The methodology is tested with some sample input image passwords and the performance calculation is carried out using metrics like Recall and Precision. The proposed work exhibits the accuracy of approximately 85% by ensuring the authentication for the user security.

Keyword: Security, Biometric systems, Authentication, Authorization, Security Patterns, Convolutional Neural Network(CNN), Free Hand Sketch Based Authenticated Security.

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Authors: **Divya Rohatgi, Gyanendra Dwivedi, Tulika Pandey**

Paper Title: **Automated Regression Testing for Web Services**

Abstract:Web services represent class of applications developed through open internet standards. They help to develop dynamic applications and thus are used to deliver business components or functionalities on the web. Business functionalities as per changing market scenarios are frequently changing and so are these web services. It is therefore the need to properly ensure quality of these web services as they are essential to deliver functions which are required for organizations in their strategic business. To maintain desired level of quality, software maintainability of such applications is important. Regression Testing is required for proper maintaining any software and it becomes very costly in terms of cost and labor for constantly changing applications. Thus to reduce maintenance cost we need to reduce effort required in such testing. This paper presents an efficient regression testing strategy which is also automated to reduce the regression costs of web services. The strategy is implemented through an extensive framework supported by automation and also integrates data testing with regression. The proposed work is particularly useful for those applications which are delivered over web.

Keyword: Automated testing, Regression Testing, Web based applications, Web Service

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582.

Authors: **B. I. D. Kumar, Vasanth G., SudalaiMuthu T.**

Paper Title: **A Hybrid Transition for IPv4-IPv6 Co-existence in Small Size Organization**

Abstract:Internet Protocol version 6 (IPv6) is the current generation Internet protocol developed by the Internet Engineering Task Force (IETF) to handle the shortage of IP addresses in IPV4. The transition from IPv4 to IPv6 is gradually being done not happening as anticipated. It is unavoidable to have both IPv4 and IPv6 networks during the transition period, but unfortunately they are not compatible in nature. It is essential to maintain the IPv4 and IPv6 coexistence. The inter-communication ability of IPv4 and IPv6 is the dire need of network community. Many transition techniques are proposed in the recent years. This paper discussed the key difficulties in IPv4-IPv6 transition, and introduced the hybrid approach for coexistence of IPv4 and IPv6. It hybrid the advantages of

weightage and tunneling translation techniques for providing inter-communication ability of IPv4 and IPv6. The proposed algorithm has been simulated and the performance metrics; transmission latency, throughput, jitter and delay have been analyzed from end to end host, through various scenarios includes IPv4 only, IPv6 Only, Dual stack, GRE tunneling. The performance of the proposed algorithm is analyzed and the future scope is discussed.

Keyword:IPv4, IPv6, ISP, Transition techniques.

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583.	**Authors:**	**M. Priya, M. Karthikeyan**
	Paper Title:	**Diagnosis for Early Stage of Breast Cancer using Outlier Detection Algorithm Combined with Classification Technique**

Abstract:Breast cancer is the most dangerous cancers that lead to women in death. Particularly in the developed countries it takes second leading place that increase the chance of death in women. It can be not easily diagnosed by the lab. It has difficult to identifying at the beginning stage. This cancer begins from breast and disseminate to other body parts. It has cured easily if it is identified at beginning stage. The correct classification of benign cancer can prevent from superfluous treatment for patients. This paper focused on diagnosis early stage of the breast cancer based on data mining algorithms. The automatic diagnosis process plays on important role in data mining. The proposed method has a process of three stages. First, data objects are grouped into clusters using k-means clustering algorithm. Size of the dataset has to shrink gently the computation time also reduced. The second stage, the outlier detection (OD) algorithm has used to detect the outliers from the cancer dataset. Finally, diagnose the cancer is either benign or malignant using decision tree classification algorithm. The breast cancer dataset has been used to test the efficiency of the proposed method. The experiments were conducted in breast cancer dataset before and after removal of outliers. Comparison results prove that the proposed method as serves as the better one with high accuracy. This breast cancer research will help with a medical practitioner to diagnose the breast cancer and so that it helps to recover the patients.

Keyword: Accuracy, Breast Cancer, Classification Algorithm, Clustering Algorithm, Data Mining, Outlier Detection.

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584.	**Authors:**	**P. Kanakadurga Devi, V. G. Naidu**	**3427-3431**
	Paper Title:	**One Phase Moving Boundary Problem**	

Abstract:In this paper we introduced a variable time step method to obtain interface to moving boundary problem for Slab and Sphere. We present the basic difficulty, apart from the need to find the moving boundary, that there is no domain for the space variable. This difficulty is handled by the age old principles of basic mathematics. Naturally, giving symbolic names to the unknowns develop equations involving them and solve it using the conditions of the problem. High order accurate initial time step sizes for given space step size are obtained with the help of Green’s theorem. The Subsequent time steps are obtained by an iterative scheme. This variable time step method handles Dirichlet’s problem of freezing or melting of a Slab and spherical droplet.

Keyword:interface, Finite difference method, Crank-Nicolson scheme, stefan problem, variable time step.

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585.	**Authors:**	**K. Surendra Babu, B.Samuvel Michael, Anandhu Chandran, Jaimin Moncy, Muflin Mon**	**3432-3434**
	Paper Title:	**Different Injection Pressure on VCR Engine using Hibiscus Oil**	

Abstract:This present examination researches the presentation and outflow qualities distinctive infusion pressure on factor pressure proportion of a diesel motor utilizing Hibiscus oil. With different mixes of hibiscus seed oil, biodiesel and diesel mixes are set up to use as fuel on factor pressure proportion diesel motor. The outcomes indicated that decrease in brake warm effectiveness, nitric oxide and increment in brake explicit fuel utilization, carbon monoxide, hydrocarbon with Blends of hibiscus seed biodiesel mixes than flawless diesel. The minor departure from execution parameters like Brake explicit fuel utilization, Brake warm effectiveness and NO emanations Hydro carbon, Carbon Monoxide are surveyed and broke down.

Keyword: Hibiscus seed oil, Diesel, Injection nozzle.

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586.

Authors: **S. Kalyanakumar, S. Prakash, Nithin Mohanan, Pranav, Arshad ali**

Paper Title: **Design and Fabrication of Safety Buckle using Additive Manufacturing**

Abstract:Main objective is to optimize the arm component design. We have studied the existing design of the arm component and captured the initial design data. Later, we have optimized this design using honeycomb structure and found through analysis that the optimized design data is way beyond beneficial in terms of material, mass and the volume. The challenge now is to manufacture. We have recommended additive manufacturing to produce this honeycomb structured arm component, for various reasons as stated in the journal.

Keyword: Additive manufacturing, 3D Printing, Optimization, Arm in rescue equipment.

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587.

Authors: **Sangeetha Krishamoorthi, M.Prabhahar, Rahul Raj R Pillai, Abdul Manam MK, Abdulla Ajmal**

Paper Title: **CNSL as Alternate Fuel with Different Additives for CI Engines**

Abstract:The depletion of fossil fuel and the environmental deterioration are the 2 main problems which is faced by the world in recent days. Only limited amount of stocks can provide the fossil fuel based fuels. The various derivatives of the vegetable oils have been identified as the straight vegetative oils which are used in diesel engines. These have the characteristics of high viscosity, lesser volatility level and very low cold flow properties. The CNSL oil was chosen and mixed with several additives and the quality and emission characteristics were described and charted in this paper. Based on the experimental work done the results were compared. The experiments show that the lower blends can be used directly in the engine by which the overall consumption of diesel is reduced. Amongst all the different blends used such as B20,B15 and B10 the blend B20 was preferred showing improved performance in the engine compared to the different blends available. The experiment was done with the different additives such as DiEthylEther (DEE), Ethanol (EA), and Iso Butane(ISO)

Keyword: Isobutane, CI engines, quality, Diethyl ether.

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588.

Authors: **N. Lakshminarayanan, R. Mahesh, R. Amalraj, Mithun. N. P, Jayakumar Nair**

Paper Title: **Design of a Hexagonal Solar Fish Dryer**

Abstract:Solar drying is a general methodology adopted to protect agricultural goods, fishes as well as meat in tropical as well as subtropical areas. Drying helps to maintain the quality of product and improve its shelf-life by bringing down the wastage to minimum levels. Conventional driers have lot of limitations like infestation by insect, rodents, other animals, exposure to wind-borne dirt and dust, lack of proper monitoring as well as escalated cost of the automatic dryers. Solar dryers are being used all around the world in different countries in varied models. These dryers are of two different methods one that work with natural convection with air-flow established by buoyancy and the other with air flow by a fan in forced convection mode. This is a paper on the outcome of a solar dryer designed especially for fisherman to dry fishes effectively. A different configuration with an objective to capture major amount of incident solar energy and dry fishes at a faster rate is being suggested as an alternative.

Keyword: Fish drying; hexagonal configuration; Solar Drier.

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589.

Authors: **Praveen. R, P.Kumaran, Akash , Divyakrishna, Kavin kumar**

Paper Title: **Examination of Mechanical Behavior of E-Glass Fabric Reinforced Polyester Composites**

Abstract:Cooling system this study aims at fabrication Glass Fiber Reinforced Polyester (G-P) Composites and investigation of their Physico-Mechanical Properties. In the present work Polyester based composites were fabricated manually by compression. Mechanical Properties are evaluated according to American Society for Testing and Materials (ASTM) D-638 and D-790 respectively. Further, Surface Morphology is emphasized to study their microstructure under varying magnifications.

Keyword: Glass fibre, Reinforcement, Metal matrix, composite

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590.

Authors: **Sathiyaraj. S, S. Kalyankumar, Mohammed Fayis, N. Ronald Jaison, Rony Samraj**

Paper Title: **Manfacture of Al-B4c Metal Matrix Composites Via Stir Casting Methode**

Abstract:Aluminum alloys are widely used in the aerospace and car industries due to their low density and suitable mechanical housing, excellent corrosion resistance and wear, and the low thermal coefficient of expansion compared to conventional metals and alloys. Exceptional mechanical residency of those alloys and the relatively low production value lead to a candidate that is very attractive for the diffusion of applications, from scientific and technical point of view. Manufacturing of aluminum alloy based totally casting composite with the aid of stir casting is one of the most within your budget techniques of processing MMC. The primary goal of this paper is to make aluminum metallic Matrix composite with different sythesis of fortification garbage of Boron Carbide Via utilizing mix throwing approach and Hardness of the Al-B4C MMCs measured via Vickers hardness method.

Keyword: Composite, steel Matrix Composite, Stir casting and Aluminium metallic Matrix Composite.

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591.

Authors: **A. Senthilkumar, N. Shivakumar, Muhamed Razi, Basil, Mohammed Sheeth**

Paper Title: **Effect of Titanium Oxide Nanoparticle Additives on R22 Refrigeration System**

Abstract:To explore the conservation technique for energy resources and making more efficient new energy systems has initiated the demand for usage
of Nanoparticle in heat transfer fluids. The study explored the impact of Nanolubricants based on Mineral refrigeration oil and Tio2 Nanoparticle at three various mass concentrations 0.6g/l,024g/l and 046g/l in a vapour confining refrigeration system. Experiments are finalized out to read the important functions of cooling models, like as coefficient of performance (C.O.P), Compressor work and refrigeration effect when titanium oxide (Tio2) Nanoparticle are added to the lubricant. The experiment conduced using R22 refrigerant. The process of Tio2 Nanoparticle by the cooling model was raising the cooling level of accuracy and Collaborative of task and reduction of compressor work.

Keyword: Nanolubricants, Tio2 Nanoparticle, R22, Coefficient of performance.

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592.	**Authors:**	**M. Saravanakumar, M. Prabhahar, Manikandan.V, Sajin MP, Gangadharan.K**
	Paper Title:	**Performance Characteristics of VCR Engine using Lemon Grass Oil and Methanol Mixed with Diesel**

Abstract:In the Experimental study, experiments has been done on an immediate infusion, single cylinder, constant speed, water cooling system VCR engine at injection pressures 200, and compression ratio of 17.5 using various blends. The effect of dual biodiesel blends and injection pressure were examined with various engine loads.

Lemongrass oil and methanol were blended with diesel at a variety of blend ratios for the purpose of investigation. Presentation and release characteristics obtained from the systematic study reveals that Brake Thermal Efficiency (BTE) and brake specific fuel consumption (BSFC) of blend B20 (i.e. Lemongrass 20 % methanol 30% and Diesel 50%) was higher than diesel.

The emission of carbon monoxide (CO), hydro carbons (HC), and carbon dioxides (CO2) of dual biodiesel blends with better than that of diesel. It was identified that with increase in injection pressure from 200bar can be improving the performance analysis while reducing exhaust gas emissions. But increases the nitrogen oxides emissions.

Keyword: Lemon grass biodiesel, Engine performance test, Emission test.

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593.	**Authors:**	**S.G. Ramesh kumar, N. Vijaya lakshmi**

	Paper Title:	**Multipath Routing for Balancing the Load in Manet**

Abstract:Mobile Ad hoc Networks (MANETs) have attracted quite a concentration owing to their extensive potential applications. Load balancing is vital for enhancing performance in MANETs. Routing overload is the major causes of breaking routing performance in the network. To resolve these challenges, this paper intends a novel routing scheme is called Multipath Routing for Balancing the Load (MRBL) in MANET. In this scheme, the relay node is selected based on the received signal strength. During data transmission, the route node is overload due to heavy data transmission. When utilizing the multipath routing strategy. As a result, decreased network overhead and increased the packet delivery ratio. This work is simulated in NS-2 simulator, and the results show that MRBL scheme performs better than the baseline protocol.

Keyword: Multipath routing, Network Simulator, Mobile Ad hoc Networks, Load balancing,.

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	Authors:	**K. Umapathy, D. Muthukumaran, S. Chandramohan**
	Paper Title:	**RF Energy Harvesting using Wireless Sensor Network for Low Power Applications**

Abstract:The evolution of telecommunications systems emphasizes the importance of RF energy in the surroundings. This energy can be utilized for less power device namely wireless sensor network. The performance of small DC/RF converter is calculated in this paper in sequence to enslave the WSN performance for energy recovered. Specially to attain the performance in GSM band the efficient rectifier is achieved. Based on the selection of rectifying diode the design methodology works and causes the losses in rectifying antenna. By employing the slope method the advantageous performance is obtained in Advanced Design System (ADS) software. Implementing Schottky diodes in rectifier and voltage doubler HSMS 2850 is used. RF/DC conversion the maximum efficiency is 38% is achieved with 10dBm input power level. A uniform distribution of sensor node with network loads is utilized to control the WSN performance of Base station location as well as distance. For such reason Low Energy Adaptive Clustering Hierarchy (LEACH) protocol is utilized.

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Keyword:HSMS 2850 Diode Rectenna, RF/DC Efficiency, WSN, Leach Protocol.

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Authors: **E. Swarnalatha, Ch. Hariveena, Saritha Vuppala**

Paper Title: **Systolic Fir Filter using Bypass Multiplier**

Abstract:In DSP the most common function is Finite Impulse Response (FIR) filter which is realized in field Programmable gate Arrays (FPGAs). For efficient Very Large Scale Integration (VLSI) computation systolic FIR filter architecture has attractive models. High speed is the major concern for fast computation in real time Digital Signal Processing (DSP) applications. In conventional systolic FIR filter method uses general array multiplier structure which takes more time to compute the process with high design complexity with less power. To overcome this problem the systolic FIR filter utilizing Bypass Feed Direct Multiplier(BFDM) is proposed. The proposed method 16 tap systolic FIR parallel processing offers less delay with less design complexity which is used in image and signal processing applications. The proposed method is simulated using Xilinx ISE 12.4 ISE tool and the functions are evaluated by MODELSIM 6.3C.

Keyword:systolic FIR filter, bypass feed direct multiplier, Xilinx ISE tool .

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Authors: **Sasikar. A**

Paper Title: **Spectrum Sensing in Cognitive Radio using Frequency Domain**

Abstract:An efficient bandwidth allocation and dynamic bandwidth access away from its previous limits is referred as cognitive radio (CR).The limited spectrum with inefficient usage requires the advances of dynamic spectrum access approach, where the secondary users are authorized to utilize the unused temporary licensed spectrum. For this reason it is essential to analyze the absence/presence of primary users for spectrum usage. So spectrum sensing is the main requirement and developed to sense the absence/ presence of a licensed user. This paper shows the design model of energy detection based spectrum sensing in frequency domain utilizing Binary Symmetric Channel (BSC) ,Additive white real Gaussian channel (AWGN), Rayleigh fading channel users for 16-Quadrature Amplitude Modulation(QAM) which is utilized for the wide band sensing applications at low Signal to noise Ratio(SNR) level to reduce the false error identification. The spectrum sensing techniques has least computational complexity. Simulink model for the energy detection based spectrum sensing using frequency domain in MATLAB 2014a.

Keyword:CR, Simulink, Energy detection, spectrum sensing.

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Authors: **S. Mohan Kumar, J. Ram Kumar, K. Gopalakrishnan**

Paper Title: **Skin Cancer Diagnostic using Machine Learning Techniques - Shearlet Transform and Naïve Bayes Classifier**

Abstract:Development of abnormal cells in the skin is known as skin cancer or melanoma, which can spread other parts of the body. Melanoma rarely occurs in eye, mouth and intestines. In this study, the classification of melanoma using shearlet transform coefficients and naïve Bayes classifier is discussed. The melanoma images are decomposed by the shearlet transform. Then, from the shearlet coefficients, predefined number of (50, 75 and 100) coefficients are selected from the decomposed subbands. The selected subband coefficients are directly applied to the naïve Bayes classifier. Performance of skin cancer classification system is measured in terms of accuracy. Results show that a better classification accuracy of 90.5 % is achieved at 3rd level with 100 coefficients of shearlet transform and naïve Bayes classifier for skin image classification system.

Keyword: Melanoma, Shearlet transform, Subband coefficients, Naïve Bayes classifier.

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598.	**Authors:**	**K. Balaji, D. Vidhyalakshmi**
	Paper Title:	**Voltage Regulation in BDC Based on Fuzzy Logic Controller using Solar Power Generation**

Abstract:The PhotoVoltaic (PV) based grid system coupled with Bidirectional DC-DC Converter (BDC) utilize Fuzzy Logic Controller (FLC) for increasing voltage gain and reduce the settling time of DC link voltage than conventional is presented. BDC satisfied the load requirements, and control the power flow from different sources such as PV, grid, and battery. However, problems in conventional system are high Total Harmonic Distortion (THD), DC link voltage gain and settling time of capacitor voltage. The generated power is used for improving the power quality at the output of the inverter using Sliding Mode Controller (SMC). The converter and inverter operate has bidirectional performance and utilize the hybrid power generation as mentioned. The battery can act as a load based on operating modes of BDC and power generation. It provides a comparative analysis of Proportional Integral (PI) and FLC method that is effectively performs harmonic reduction in BDC.

Keyword: Bidirectional Converter, Fuzzy Logic Control, Sliding Mode Control.

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599.	**Authors:**	**B. Samuvel Michael, R .Praveen, MD Namsheed Jashal, Unais M S, Amil Raju**
	Paper Title:	**Design and Fabrication of Flexible Management Robot Vehicle (AGV)**

Abstract:This project is focusing on developing a multifunctional automated guided vehicle. This AGV system has to be obtained by the major part of all workstations into shop floor. This type of vehicle is assigned to all over the shop floor. This article has presented as an analytical concept of design a AGV system. The concept model has obtained a performing of design procedure which consists of two steps, 'selection of feasible zones' and 'selection of final guide path.'This AGV for all manufacturing industry which contains the features like it can carry the finished component pallets, collision detection and computer control. A command based or teach pendent interface based wireless control is provided to control the robot. A collision detection sensor ensures robot may not hit any obstacles in its path. The robot has compact size which can easily move on rough area. In this project we describe

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	the development of automated guided vehicle that provides you with a FMS environment for modeling and prototyping automated guided vehicles **Keyword:**prototype agv, system, remote **References:** 1. McKinsey Corporation, Cologne, Germany Department of Industrial ngineeringand Engineering Management, Stanford University, Stanford, CA 94305-40245 2. k. k. lai AGV problem via a Self-Organizing Neural Journal of the Automated Guided Vehicle wednesday, April 23,2008. 3. 3. Kyunghoon Jung1, Jungmin Kim2 , Sungshin Kim2Department Localization AGV Using Extended Kalman Filter of Interdisciplinary cooperative Course: Robot 2 School of Electrical and computer Engineering 1,2Pusan National University Geumjeong, Busan 609-735, Korea me.vol1.issue1.15	
600.	**Authors:** **M. S. Gowtham, S. Syed Jamaesha, E. Veera Boopathy, M. Anandapriya** **Paper Title:** **The Physical Design Implementation of a 32-Bit 5-Stage Pipelined MIPS Processor using SCL 180nm Technology** **Abstract**:The proposed work describes the physical design implementation of a 32-bit 5-stage pipelined MIPS processor. The various blocks of this processor include the data-path, control logic, data and program memories. Hazard detection and data forwarding units have been included for efficient implementation of the pipeline. Modified architecture is proposed that leads to significant area reduction by exploiting most of the functional units in a single clock cycle. Also, by increasing the instruction throughput, the overall performance is increased. The simulation of Verilog design for this project is done in Cadence NCLaunch followed by synthesis using Cadence Genus. The RTL to GDSII implementation is carried out in Cadence Innovus using SCL 180nm Technology. Physical verification is performed in Cadence Virtuoso using Calibre tool. **Keyword:**MIPS Processor, Pipeline, RTL to GDSII, SCL 180nm. **References:** 1. Kang, S.M., Leblebici, Y. and Kim, C. 2015. CMOS Digital Integrated Circuits: Analysis & Design. 4th ed. Singapore: McGraw-Hill. 2. Ryota, K., Kennosuke, F., Kazuo, T., Hitoshi, K. and Shoji, H. 1985. An Integrated Modular and Standard Cell VLSI Design Approach. IEEE Transactions on Electron Devices. 32(2), pp.487-492. 3. Steven, M.R. 1994. Computer Aids for VLSI Design. [Online] Available at: http://www.rulabinsky.com/cavd/text/chapc.html. 4. MIPS32 architecture for Programmers. Vol 1: Introduction to MIPS architecture. 5. D. A. Patterson and J. L. Hennessy, Computer Organization and Design, The hardware/Software Interface. Morgan Kaufmann, 2005. 6. Das, D. 2010. VLSI Design. New Delhi: Oxford University Press. 7. Bernard, V. and Dominique, B. 1989. Logic Synthesis for VLSI. In: Walter, E.P. and Hans, R. ed. VLSI and Computer Peripherals: 3rd Annual European Computer Conference, 8/9/10/11/12 May 1989, Hamburg. New Jersey: IEEE, pp.5/10-5/14. 8. Eugenio, V. and Pablo, S. 1995. CAD Tools for Synthesis. In: ISIE '95 Proceedings of the IEEE International Symposium on Industrial Electronics, 10/11/12/13/14 July 1995, Athens. New Jersey: IEEE, pp.27-32. 9. Jeffery, B., Arun, S. and Naveed, S. 1993. Physical Tradeoffs for ASIC Technologies. In: AISC Conference and Exhibit, 1993: Proceedings., Sixth Annual IEEE International, 27 September – 1 October 1993, New York. New Jersey: IEEE, pp.70-78. 10. Rajesh, M.A., Soujanya, R., Kalpashree, M.A. and Soumya, S. 2014. Automated Physical Verification of I/O Pads in Full-Custom Environment. In: 2014 Fifth International Symposium on Electronic System Design, 15/16/17 December 2014, Surathkal. New Jersey: IEEE, pp.203-205. 11. Gautham P, Parthasarathy R, Karthi Balasubramanian, "Low-Power Pipelined MIPS Processor Design", Proceedings of the 2009 12th International Symposium on Integrated Circuits, IEEE, 11105421. 12. E Veera Boopathy et al, "Design and analysis of high speed low area-power semi-customstandard library cells using 90nm MOCMOS technology", Journal of Physics: Conference series, vol:1362, 2019.	**3489-3494**
601.	**Authors:** **Elena V. Berezina, Pavel P. Bochkovskiy, Konstantin V. Lebedev, Nadezhda A. Pluzhnova** **Paper Title:** **Assessment of the Level of Technological Development in the Field of Research and Development: The Regional Dimension** **Abstract**:The purpose of this study is to examine the existing approaches to assessing the level of technological development of the countries of the world. Methods: Using the experience of previous studies , the article supports and develops ideas for constructing a composite index, allowing to assess the level of technological development of the research and development area at the subnational level. Results: According to the level of technological development of the sphere of research and development with the use of the proposed index, we compiled the rating of Russian regions . The factors, determining the gap in the level of technological development in the sphere of research and development , are identified, and the size of the existing gap between the Russian regions is estimated. In the course of the study , it was possible : to assess the level of technological development of research and development at the subnational level; to identify the strengths and weaknesses that affect the level of technological development of research and development ; to identify Russian regions -leaders and regions-outsiders as a whole in terms of the level of technological development of the sphere of research and development, as well as for individual "referent elements"; to conduct a comparative analysis of the level of technological development in the sphere of research and development of Russian regions; to determine the impact of each subindex on the composite index. Practical relevance: The necessity of developing a given approach is substantiated simultaneously at the sectorial and regional levels. There is a composite index describing the level of technological development of research and development at the subnational level.	**3495-3502**

Keyword:scientific policy, technical policy, composite index, complex index, subindex, region.

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Authors: **D. Ramesh, V. R. Muruganantham, K. Arun Balasubramanian, A. Thirumoorthy, M. Sudhakar**

Paper Title: **Experimental Research on the Tribological -Mechanical Properties of Al-SiC composites and EN31 Steel**

Abstract:In this research, metal matrix composites was fabricated using stir cast technique. Al 6061 alloy (Matrix) and silicon carbide (Reinforcement) were selected as particles. Tata Ace (mini truck) frame made of EN31 steel considered as a comparative material. Optimal weight % of SiC particles was selected as 30 %. Tensile, impact, hardness tests and tribological behaviour of the fabricated composites and EN31 steel was carried out. The mechanical tests such as tensile, impact and hardness are conducted according to the ASTM standards. The results shows that the fabricated composites had improved properties when compared to EN31 steel.

Keyword: SiC particles, Metal matrix composite, Stir casting, carbon steel EN31.

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Authors: **E Vetre Selvan, K.Hariharan, V. Jayasurya, S. Jaiganesh, M.V. Kaviselvan**

Paper Title: **Experimental Research on AA 6061/SICP Composites**

Abstract:Aluminium alloys are widely used in aerospace and automobile industries due to high strength to low weight ratio and their good mechanical properties such as better corrosion resistance and wear resistance, low thermal expansion as compared with other metals. The main objective of our work is to improve the mechanical properties such as impact strength, hardness of Aluminium based Metal Matrix Composite (MMC), and its relation with processing of the silicon carbide particulate (SiCp) as reinforced in Aluminum matrix. AA6061 alloy is chosen as matrix alloy, in which Aluminum is the base element. The work has been proposed for four different weight proportions of SiCp to aluminium matrix and the processing of the metal matrix composite is to be processed with stir casting setup and heat treated.

Keyword:AA6061; Silicon carbide; Casting; Mechanical Properties.

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Authors:	**B. Manjula, Ameen Abdullah Aqlan, R. Lakshman Naik**
Paper Title:	**Current Apprises of Opinion Mining Methods**

Abstract:increasingly, the data is increasing day by day and storage capacity is expanding more and more, this allowing the field of SA to growing and developing faster in research and prospecting for different opinions and emotions to be combed and technically treated to be more accurate. In our present, data can be a wealth where major global companies and development, research and crime detection centers benefit from it. In this paper we focused on the current apprises of research in this field which contributed to various improvements in the field of sentiment analysis. We have tackles comprehensive overviews for different fields which related to the Sentiment Analysis (Transfer Learning (TL), Building Resource (BR), Emotion Detection (ED)) which have the popularity of researchers has gained in recent times and attracted them. We have the aim of this survey which is to give a clear and accurate picture about the techniques of analyzing emotions and related fields.

Keyword: Sentiment Analysis; NL Process; Emotion Detection; Data Mining; Building Resources

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Paper Title: **The Assessment of Effectiveness of R&D within the Framework of Federal Target Programs**

Abstract:The purpose of this study is to develop approaches to assessing the effectiveness of R&D of civilian use carried out within the framework of federal target programs based on integrated accounting of performance indicators and the cost of projects. Methods of comparative analysis as well as the methods of expert estimations were used. The developed methodology is tested on the example of the most knowledge-intensive program — the Federal Targeted Program "Research and development on priority directions of scientific and technological complex of Russia for 2014-2020" showing its practical applicability. It confirmed the hypothesis about the existence of significant differentiation of projects containing R&D according to the quantitative structure as well as scientific and technical potential of the established objects of intellectual property in comparison with the costs of R&D. The existing system for assessing the effectiveness of R&D conducted within the framework of targeted programs is carried out with aggregate output parameters and does not pay attention to the specific contribution of each project in improving the indicators of the entire program. The authors proposed to use the concepts of "weighted effectiveness" and "innovative efficiency" of projects. The quantitative evaluation of projects based on these parameters made it possible for us to perform the ranking of projects, to identify groups of projects with varying degrees of innovative efficiency, and to distribute the most effective, low efficiency and expensive projects according to thematic areas of research.

Keyword:effectiveness, efficiency, federal target programs, financing of contracts, objects of intellectual property, research and development.

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Paper Title: **Automatic Boundary Delineation of Agricultural Fields in Multi temporal Satellite Imagery with Segmentation**

Abstract:A right difference in agricultural areas is the primary necessity for any sector-primarily based implementation together with estimating agricultural subsidies. Improved decision remote sensing image currently offer higher useful geographic records to delineate regions; however, their automatic managing is tedious. Its miles therefore critical to increase strategies that permit this activity to be completed right away. In any such process, a novel approach named improving the Enhanced Gustafson-Kessel-Like clustering (EGKL) version explores the use of a pc-mastering device to define agrarian areas. The current method seems for limits as either segment corners or linear traits are adjoining regions of small variation all the time series. Nearby everyday deviations from all images a while are coupled, ensuing in a sequence of extended directional edge filters. Even though, in order beautify the excellent of boundary delineation, this advised paintings is merged with sequential features of small variability across the time collection, which includes the standard deviation (STD), Near-Infra Red (NIR) band, or an index along with the Normalized Difference Vegetation Index (NDVI), or band ratios (particularly for hill us of a), or important component images. A photograph evaluation of the effects obtained with the aid of a methodology relevant to two fields of an excessive-resolution satellite image of the fractured agricultural landscape shows that it is helpful to apply the guide vector machines technique for such a task. Finally, the experimental results reveal that the proposed segmentation method is more efficient than the existing segmentation techniques in factors of each quantitative overall performance metrics and appropriateness for land-use classification.

Keyword: Agriculture, Clustering, Function Extraction, Enhanced Gustafson-Kessel-Like Clustering, Image Area Evaluation, Image Segmentation, Photo Series Evaluation, Remote Sensing, Multispectral Edge Detection.

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607.	**Authors:** **Faisal Qayoom, Anuj Sachar, Manish Kaushal** **Paper Title:** **Enhancement of Shear Strength Parameters of Clayey Soil by using Polypropylene Fiber**	**3536-3540**

Abstract:When the foundation soil is not strong enough to hold on with the loads transmitted to it .At such places the structure could be damaged, in order to eliminate this threat the soil properties such as stability, shear strength, durability etc are enhanced by mixing it with different admixtures such as lime, cement etc .At some occasions fibers (obtained from waste materials)are used to enhance the soil properties. In past a large number of studies have shown the effectiveness of such mixing materials at considerable percentages. It has been studied that the outcome of such materials when used in soil improvement techniques is handsome. In this examination the polypropylene fiber ,obtained from waste materials has been used. The different percentages of fiber reinforcement are used and the corresponding changes in the shear strength parameters are examined. The effects of polypropylene fiber reinforcement on the soil samples are examined by carrying out Direct Shear Test and Unconfined Compression Test.

Keyword: Durability, Polypropylene reinforcement. Shear strength.

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608.	**Authors:** **Amran Atan, Nik Lukman Nik Ibrahim, Mohd Khairul Azhar Mat Sulaiman** **Paper Title:** **Simulation of Different Light Well Typology by using Daylight Rules of Thumb under Overcast and Intermediate Skies without Sun**	**3541-3546**

Abstract:The daylight conditions that are fit for an interior can be easily achieved by applying the simple and comprehensive principles, the daylighting rules of thumb in the process design. In architecture, these rules can be expressed in a different kinds of modes and are divided into categories that based on the parameters which constitute them. Since daylighting is the control admission of natural light, one of the categories can be the light well topology. Thus, an opening plays an important role in influencing the effectiveness of daylight distribution in building. One of the categories is light well typology. This study was conducted using an existing sample of single side opening and two side opening light wells with the comparison of additives to light-well typology under under overcast and intermediate skies without sun also to proposes daylighting rules of thumb for light wells. There are several types of light wells simulated for daylighting performances in this study. Light well models were simulated by conducted using IES_VE application software. Regression analysis was then carried out to find correlation between the measurements obtained in the daylighting simulation and the calculations derived from an established daylighting formula. Thus, existing daylighting formula is modified to create new daylighting rules of thumb for light wells with reflectance mirror in single storey terrace houses. These simple equations can serve as rules of thumb to helparchitects and engineers in calculating daylight levels for different light well designs.

Keyword:daylighting, rules of thumb, light well, reflectance mirror

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609.	**Authors:**	**Shiv Kumar Agarwal, Surendra Yadav**
	Paper Title:	**Hybridization of Artificial Bee Colony Algorithm and its variants with Hyperbolic Spiral based Local Search**

Abstract:Artificial bee colony (ABC) algorithm is grounded on intelligent swarming behavior of honey bees. It is one of the efficient algorithm for optimization. The ABC algorithm is good in exploration and sometimes fails to exploit properly. Local search strategies in addition to existing steps play important role to improve exploitation. In order to improve exploitation here a local search inspired by the nature of hyperbolic spiral introduced in ABC. The purposed variant used with ABC, Best-so-far ABC and Gbest ABC. Outcomes proved that hybrid of these algorithms with hyperbolic search gives good results with higher accuracy and reliability.

Keyword: Local Search, Optimization, Nature Inspired Algorithm, Swarm Intelligence

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610.	**Authors:**	**R.R. Akhunov, A.V. Yangirov**
	Paper Title:	**Decomposition of Regional Development Shifts**

Abstract:Subject. No breakthrough in the economic development of the Russian Federation could be achieved without the maximum utilisation of the inner regional potential. This implies high relevance of studies concerning the aspects of influence produced by internal and external factors on regional development, as well as analyses of the existing conditions at the macroeconomic level that support or hinder the engagement of inner regional reserves and opportunities in the regions' socioeconomic development. This would make the basis for a more comprehensive view of the regional system and its inherent properties, helping to identify ways to manage regional development.

Objectives. Analysis and decomposition of developmental shifts in the Russian regions and their classification based on internal and external influences.

Methods. The primary research method is the shift-share analysis method. The methods of logical and statistical analysis, particularly, correlation analysis, are also used.

Results. The driver effects of shifts are calculated at the national, industry, and regional levels for 80 regions of the Russian Federation and the period comprising two time points, 2012 and 2017. The regional and industry

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effects are analysed by the types of economic activities. It is established that, firstly, the regional effect is negative for most regions and, secondly, the industry effect (in combination with the national effect) acts to smooth out the negative regional effect.

Conclusions. A conclusion is made that positive shifts can be achieved both in strong and weak regional economies. Generally, the shifts in Russian regions are mostly influenced specifically by the internal regional conditions, which are mostly adverse, suggesting high importance of regional effects. The research highlights the significance of industry policies at the federal level, primarily in economic activities such as agriculture and manufacturing, and the need for improvement of regional policies implemented at the federal level to raise the number of self-developing regions.

Keyword:region, regional development, shift-share analysis method, national effect, industry effect, regional effect.

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Authors: **Priya Sharma**

Paper Title: **Digital Revolution of Education 4.0**

Abstract:The purpose of this article is to show the evolution and requirement of the educational system such as the Industrial Revolution 4.0 (IR 4.0). The fourth industrial revolution (RI 4.0) brought about a state of change in education. IR 4.0 is disciplined by artificial intelligence and digital physical frames, making the human-machine interaction even extra versatile. By preparing students for the next life and working with IR 4.0, you can replace people working in specific fields with smarter robots. Education requires the use of relevant information and skills that cannot be replaced by robots. Creative Education 4.0 ends innovation by focusing on improving education and skills to make future learning more personal, super, smart, portable, global and virtual. The explosion of IR 4.0 has changed future learning into fairy tale miles. Science fiction goes to science-creative energy is omnibus; virtual classrooms and augmented reality grow in smart classrooms. Self-sufficient smart robots, guided tours, vehicles and classrooms are today's pleasures. State-of-the-art instructors need to look for new ways to improve their future learning using educational innovations. In this sense, this introduction assumes that teachers need to review the old

origins of orientation and learning and update their learning experience to complete the necessities of Education 4.0.

Keyword: Industrial Revolution 4.0, Knowledge Management, Learning Methods, Online Learning Tools& Higher Education.

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Authors: **C. Pavithra, Y. Pavithra, R. Geethamani, V. Sankari**

Paper Title: **A Novel Scheduled Power Management using Iot Controlled Energy Meter**

Abstract:In this proposed system, scheduled power management is to reduce the excess use of energy and to reduce the energy tariff of the domestic consumers. The price differs, if one unit exceeds the value fixed by tariff 1a plan. For domestic customers, scheduling of energy is done by using energy meter which is controlled by IOT and Arduinos. If the consumer uses excess of scheduled energy the user gets an SMS and the circuit will be tripped automatically, in case if there is necessity for more energy, we switch to normal function from the scheduled function which can be maintained by IoT. The consumer can check the energy consumption in webpage. The internet of things paradigm has been proposed in order to check the energy consumption and also for automation purposes like tripping the circuits when energy usage is increased. A very low cost, advanced embedded hardware has been used to make the prototype model.

Keyword:IOT (internet of things), tariff, scheduled energy, Arduino.

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Authors: **Rakhimov Temurbek Omonboyevich, Ismailov Shavkat Kuzievich, Matyokubov Utkir Karimovich, Eschanov Umar Kutlimuratovich, Kuchkarov Voxid Alisherovich**

Paper Title: **Modeling Discrete Channels Based on Gilbert Model using MATLAB Software**

Abstract:Examining the state of discrete channels requires the study of the physical and mathematical characteristics of these channels. The Gilbert model allows for the determination of the channel state for detecting and correcting errors mainly in discrete channels. In the Gilbert model, the channel can be in two cases. It is a good case that there are no errors, and in the worst case, an error with px is likely to occur. The need for error-free channels for discrete channels, as well as the use of discrete channels for data transmission, as well as the use of Virtual programs for error detection and correction. The article deals with the use of Gilbert's model to detect and correct errors in discrete channels, and to combat noise in providing reliability and resilience of information. In addition, Gilbert's model is based on the modeling of the discrete channels using the MATLAB software and the removal of detected errors by a virtual model.

Keyword:information, message, channel, signal, system, model, model memory.

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Authors: **B. Reddaiah, K. Srinivasa Rao**

Paper Title: **Impact of Scrum Adoption on Enterprise in Transition for Software Development**

Abstract:In every product development companies should be aware about the quality and customer’s satisfaction of the product that they are developing. To get high quality product based on the customer and circumstances of development, suitable process model has to be used in development. Scrum framework is the one which focus on maximize flexibility and minimize transparency in project development. Most of the companies are going with Scrum as it is simple to use and it is a tool rather than process model. When new process models are chosen, they need to be adopted into the enterprise and has to go for a change. As adoption is a continuous process, at least for some period the behavior and new culture of the new framework has to be managed in its early days. When new concept is introduced there should be smooth transition from exiting to new ones. In this work impact of Scrum adoption in developing value-added card products and in financial services is discussed

Keyword: Process models, Project development, Scrum, Adoption, Transition, Value added card products, Financial Services

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615.	**Authors:**	**S. Nandhini, Shivcharan Bhrathi, D. Dheeraj Goud, K. Pranay Krishna**	
	Paper Title:	**Smart Agriculture IOT with Cloud Computing, Fog Computing and Edge Computing**	
	Abstract:Smart Farming could be a explained as a farming method which works on the thought process of a fashionable technology to increase the yield of the amount and quality of agricultural merchandise. IoT-based smart farming, a system solely made for the observation of crops in the field with the assistance of sensors and automating the irrigation system in accordance to our needs. Antique cloud-based system which uses mostly IoT models are inadequate to handle the traffic and the database of knowledge. So as to an extent it turns out to be lower latency, longer battery life for IoT devices, a lot of efficient money-based knowledge management, access to knowledge management and AI, ML IoT-EDGE based system is proposed or may be adopted. Edge for the IoT brings potential edges for several IoT deployments, as well as removal of interval in conjunction with geometric communications potency, compared to exploitation of the cloud to process and store knowledge. For example, several IoT processes will have a high level of automation at the sting leading to low latency for fast processing. The machine ifogsim is employed for modelling and simulating the sting based mostly on the IoT system which also includes the edge and the fog. The results of this method are to indicate that Edge computing based mostly IoT models are a lot of economical and extremely fast and may turn out and provide higher results when put next to different systems. **Keyword:**IOT (Internet of Things) Cloud Computing Fog Computing Edge computing Smart Farming **References:** 1. Prof. K. A. Patil, Prof. N. R. Kale -A Model for Smart Agriculture Using IoT 2. Tamoghna Ojha a,b,⇑, Sudip Misra a, Narendra Singh Raghuwanshi b -Sensing-cloud: Leveraging the benefits for agricultural applications 3. Alexandros Kaloxylos a,b,⇑, Robert Eigenmann c, Frederick Teye d, Zoi Politopoulou e, Sjaak WolfertfClaudia Shrank g Markus Dillinger c, Ioanna Lampropoulou a, Eleni Antoniou e, Liisa Pesonen d,Huether Nicole g, Floerchinger Thomas g, Nancy Alonistioti a, George Kormentzas e -Farm management systems and the Future Internet era 4. Alexandros Kaloxylos a,⇑, Aggelos Groumas b, Vassilis Sarris b, Lampros Katsikas b, Panagis Magdalinos bEleni Antoniou c, Zoi Politopoulou c, Sjaak Wolfert d, Christopher Brewster e, Robert Eigenmann f,Carlos Maestre Terol - A cloud-based Farm Management System: Architecture and implementation 5. Mohanraj I*a, Kirthika Ashokumarb, Naren Jc - Field Monitoring and Automation using IOT in Agriculture Domain 6. Mahammad Shareef Mekala, Dr P. Viswanathan - A Survey : Smart Agriculture IoT with Cloud Computing 7. Tomo Popovic´ a,⇑, Nedeljko Latinovic´ b, Ana Pešic´ c, Z˘arko Zec˘evic´ d, Boz˘o Krstajic´ d, Slobodan Djukanovic´- Architecting an IoT-enabled platform for precision agriculture and ecological monitoring: A case study 8. Shanhe Yi, Cheng Li, Qun Li - A Survey of Fog Computing: Concepts, Applications and Issues 9. Lihua Zheng a, Minzan Li a,∗, Caicong Wub, Haijian Ye a, Ronghua Ji a, Xiaolei Deng a,Yanshuang Che a, Cheng Fub, Wei Guoa - Development of a smart mobile farming service system 10. Flavio Bonomi, Rodolfo Milito, Jiang Zhu, Sateesh Addepalli - Fog Computing and Its Role in the Internet of Things	**3578-3582**
616.	**Authors:**	**Neetu Verma, Dinesh Singh**	
	Paper Title:	**Local Aggregation Scheme for Data Collection in Periodic Sensor Network**	
	Abstract:Data aggregation is an important technique for data collection & aggregation in WSN where sensor nodes sense the raw data and sends the aggregated data to the sink node. In a cluster based periodic network, sensor node senses the data on a specific time interval, performs local aggregation and send aggregated data to Cluster Head (CH). Various Local aggregation algorithms are used to remove redundant data at sensor nodes but local outlier detection problem is still unsolved. Therefore, a local aggregation algorithm has been proposed which uses the temporal correlation property of WSN to eliminate redundant and local outlier data which improves the data sent ratio and data quality. Sensor measurement is collected at different time interval of a sensor, exhibits temporal correlation because measurements varies with small or same difference (δ) and measurements are treated as similar measurements. In proposed local aggregation approach, each sensor node finds similar measurements of sensors with their frequency (number of occurrence) in a specific time interval (Temporal correlation). Set having higher frequency is selected and transmitted the average values of measurements that lie in the selected set to the cluster head. If sensors don't detect any reading between intervals it simple send a message 'data not found' instead of sending empty set. In this way we delete redundant and local outliers. The experimental result shows that algorithm improves the data quality and data sent ratio by eliminating redundant data and local outliers. **Keyword:**Data aggregation, Data fusion, WSN, Temporal correlation. **References:** 1. Elena Fasoloy, Michele Rossiy, J¨org Widmer? and Michele Zorzi "In-network Aggregation Techniques for Wireless Sensor Networks: A Survey", IEEE communication, vol.14, issue 2,pp. 70 – 87, May 2007 2. Rocky Dunlap ,"In-Network Aggregation in Wireless Sensor Networks", College of computing. Georgia Institute of Technology. USA,2004 3. Rajagopalan, Ramesh and Varshney, Pramod K., "Data aggregation techniques in sensor networks: A survey" *Electrical Engineering and Computer Science*, 2006 4. Jacques M. Bahi et. al. "A Two Tiers Data Aggregation Scheme for Periodic Sensor Networks" *Ad Hoc & Sensor Wireless Networks*, Vol. 0 pp. 1–24, 2012 5. Runze Wan et.al, "Similarity-aware data aggregation using fuzzy c-means approach for wireless sensor networks", EURASIP Journal on Wireless Communications and Networking 2019 6. Hassan Harb et.al. "Comparison of Different Data Aggregation Techniques in Distributed Sensor Networks" , IEEE Access,Vol 5,2017 7. Jacques Bahi, Abdallah Makhoul and Maguy Medlej, " An Optimized In-Network Aggregation Scheme for Data Collection in Periodic Sensor Networks", 11-th Int.Conf. on Ad Hoc Networks and Wireless, Serbia. pp.153 -166, 2012.	**3583-3588**

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Authors: **Krunal Bhavsar, Vrutik Shah, Samir Gopalan**

Paper Title: **Business Process Reengineering: A Scope of Automation in Software Project Management using Artificial Intelligence**

Abstract:This research paper aims an analytical study on the software development organization insight into trending automation technologies and their implementation Software Engineering Management (SEM) processes. Software Project Management (SPM) is a scientific art for planning, controlling execution and monitoring. SPM approaches are more focusing towards the essential requirement for the success of software project development. It has been very challenging to manage software development using existing project management procedures driven by software development organizations and this is one of the areas of problem statement for this research. This paper discusses an analytical study for the requirements and consideration of BPR in SPM, explores to spot and emphasizes the important success factors for the execution of a BPR using benefits of Artificial Intelligence (AI) in software development organization. BPR is organizational mechanism that improves ability to respond to challenges of qualitative result by change and improvement in software engineering processes, productivity, product quality and competitive advantages. AI will be the best approach and scope of automation SEM processes for software development organizations. This paper also represents a conceptual view of software engineering model shift for improvements in capability of project managers to handle agile thinking and problem solving for betterment of SPM using Artificial Intelligence.

Keyword:AI – Artificial Intelligence, BPR - Business Process Reengineering, BPM – Business Process Management, SE - Software Engineering, SEM – Software Engineering Management, SPM – Software Process Management, SPI – Software Process Improvement

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Authors: **R. H. Adekar, A. K. Kureshi**

Paper Title: **Interference Mitigation of Heterogeneous Cognitive Radio Network using Spatial Diversity**

Abstract:The heterogeneous cognitive radio networks are playing the most important role in the future generation wireless networks in order to address the problem of spectrum scarcity and to satisfy the demand of multiple coexistence networks. . In a country like India the deployment of CRN is possible on television network with the help of TV White Spaces (TVWS) as its capacity is quite high due to digital transmission of TV channel. The use of multiple wireless standards such as IEEE 802.11a, IEEE 802.22, IEEE 802.19.1 and many more wireless networks operating in the same frequency band of TVWS creates the coexistence scenario which involves the heterogeneous networks. The interference mitigation is the most important issue in such heterogeneous networks. In literature, the issue of interference mitigation is addressed mainly at the medium access layer; however, very limited work is presented at physical layer. In this paper, an interference mitigation problem of heterogeneous cognitive radio network at physical layer is addressed. The spatial diversity based techniques are proposed to mitigate the interference in heterogeneous CRN. The coexistence of different wireless networks in secondary CRN is considered for analysis. The characterization of aggregate interference is carried out for different interference scenarios. The proposed system outperform for heterogeneous CRN network over TVWS network.

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Keyword: Bit Error Rate (BER), Cognitive Radio Network (CRN), Heterogeneous Networks, Multiple Input Multiple Output (MIMO), TV White Space (TVWS).

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619.

Authors: **Ankit Dane, Umesh Pendharkar**

Paper Title: **Effective Positioning of Shear Wall in G+5 Storey Building on Sloping Ground**

Abstract:Earthquake is a natural calamity. It has been observed that the earthquake has proved to be more fatal in today's time. The prime reason for this catastrophe is the extermination of the man-made structures during the earthquake, Lack of lateral strength and stability in the man-made structure is the prime reason for their demolition during the earthquake. Mostly man-made structure is multistory buildings for this reason that is necessary for the multistory building to withstand against seismic activities. For the past few decades, some new methods have been adopted to make multistory building laterally strong and stable, a shear wall is one of them which are a structural member which provides lateral stiffness and strength to the structure. The earthquake can be even more lethal on sloping land. This paper studies the influence of shear wall in the multistory building built on sloping ground. For this purpose, four different models have been taken. Modal one is the conventional rigid frame building and the remaining three models are kept with the shear wall. All conditions (ground slope, material, seismic zone, soil condition, etc.) Except for the size of the shear wall are identical. The linear static analysis has been carried out to evaluate the story shear and its reduction as a result in all three cases. The entire analysis is done on software called sap: 2000.

Keyword:seismic load, shear wall, sloppy ground, rigid frame structure, and sap: 2000.

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Authors: **K.Kanagalakshmi, K.Lakshmipriya**

	Paper Title:	**Multimodal Transpose Rotation Mobius Transformation Based Cancellable Template Generation Technique**	
	Abstract:Cancelable biometric is such a template security conspire, that replaces a biometric template when the stored template is taken or lost. It is a feature level area transformation where a misshaped variant of a biometric template is produced and coordinated in the transformed space. The issue persevere with the utilization of unique template can be abstained from utilizing cancellable biometrics. In this work, a nonexclusive structure has been intended for producing irreversible portrayal of templates of multimodal which depends on Mobius transformation on unique picture. So the template security is additionally improved. The simulation output of the proposed framework give better execution in Identification of clients. Another strategy called "MTRMT" is proposed to address the issue of stored Templates. The Proposed epic strategy has been assessed with the ongoing fingerprint got from 50 volunteers of veerapandi village in Coimbatore locale. The exploratory outcome shows the better execution of the proposed framework. **Keyword:**Multimodal, Feature level and Cancelable Biometrics. **References:** 1. A. A. Ross, K. Nandakumar, and A. K. Jain. Handbook of multibiometrics, volume 6. Springer, 2006. 2. H. Mehrotra, R. Singh, M. Vatsa, and B. Majhi, “Incremental granular relevance vectormachine: A case study in multimodal biometrics,” Pattern Recognition, vol. 56, pp. 63–76, 2016. 3. M. Abdolahi, M. Mohamadi, and M. Jafari, “Multimodal biometric system fusion using fingerprint and iris with fuzzy logic,” in International Journal of Soft Computing and Engineering, vol. 2, pp. 504–510, 2013. 4. D. Miao, M. Zhang, Z. Sun, T. Tan, and Z. He, “Bin-based classifier fusion of iris and face biometrics,” Neurocomputing, vol. 224, pp. 105–118, 2017. 5. Y. Chen, J. Yang, C.Wang, andN. Liu, “Multimodal biometrics recognition based on local fusion visual features and variational Bayesian extreme learningmachine,”Expert Systems with Applications, vol. 64, pp. 93–103, 2016. 6. Kanade, S.; Petrovska-Delacrétaz, D.; Dorizzi, B. Cancelable iris biometrics and using error correcting codes to reduce variability in biometric data. In Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition, Miami, FL, USA, 20–25 June 2009; pp. 120–127. 7. Pillai, J.K.; Patel, V.M.; Chellappa, R.; Ratha, N.K. Sectored random projections for cancelable iris biometrics. In Proceedings of the IEEE International Conference on Acoustics Speech and Signal Processing (ICASSP), Dallas, TX, USA, 14–19 March 2010; pp. 1838–1841. 8. K. Kanagalakshmi and E.Chandra, A Novel Technique for Cancelable and Irrevocable Biometric Template Generation for Fingerprints”, Global Journal of Computer Science and Technology Graphics & Vision, Vol. 13, Issue 6, pp.1-11, 2013. 9. K. Kanagalakshmi and E.Chandra, “Novel Complex Conjugate-Phase Transform technique for cancelable and irrevocable biometric template generation for fingerprints”, IJCSI International Journal of Computer Science Issues, Vol. 9, Issue 4, No 2, pp: 426-436, July 2012. 10. Tristan Needham, Visual Complex Analysis, The Clarendon Press, Oxford University Press, New York, 1997.	**3607-3615**
621.	**Authors:**	**Aditeya Nanda, Praveen Kumar, Seema Rawat**	
	Paper Title:	**Implementing Convolutional Neural Networks for Simple Image Classification**	
	Abstract:In recent years, huge amounts of data in form of images has been efficiently created and accumulated at extraordinary rates. This huge amount of data that has high volume and velocity has presented us with the problem of coming up with practical and effective ways to classify it for analysis. Existing classification systems can never fulfil the demand and the difficulties of accurately classifying such data. In this paper, we built a Convolutional Neural Network (CNN) which is one of the most powerful and popular machine learning tools used in image recognition systems for classifying images from one of the widely used image datasets CIFAR-10. This paper also gives a thorough overview of the working of our CNN architecture with its parameters and difficulties. **Keyword:**Convolutional Neural Network, image recognition, CIFAR-10, machine learning. **References:** 1. Tapan Bhavsar, Bhavinkumar Gajjar “Image Classification using Convolution Neural Network”, International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-6 Issue-5, June 2017 2. Alex Krizhevsky, Ilya Sutskever, and Geoffrey E. Hinton “ImageNet Classification with Deep Convolutional Neural Networks”, COMMUNICATIONS OF THE ACM, JUNE 2017 3. Zeiler, Matthew D., and Rob Fergus. "Visualizing and understanding convolutional networks."European conference on computer vision. Springer International Publishing, 2014. 4. Gu, Jiuxiang, et al. "Recent advances in convolutional neural networks."arXiv preprint arXiv:1512.07108 (2015). 5. Michael Blot, Matthieu Cord, Nicolas Thome. Max-min convolutional neural networks for image classification. ICIP 2016 - IEEE International Conference on Image Processing, Sep 2016, Phoenix, United States. 6. J. Redmon, A. Angelova, "Real-time grasp detection using convolutional neural networks", *IEEE International Conference on Robotics and Automation*, pp. 1316-1322, 2015. 7. X. Zhou, K. Yu, T. Zhang, T. Huang, "Image classification using super-vector coding of local image descriptors", *ECCV*, 2010. 8. K. E. A. Van de Sande, T. Gevers, C. G. M Snoek, "Evaluating color descriptors for object and scene recognition", *IEEE Transactions on Pattern Analysisand Machine Intelligence*, pp. 1582-1596, 2010. 9. T. Ahonen, A. Hadid, Pietikinen, "M. Face description with local binary patterns: Application to face recognition", *Pattern Analysis and Machine Intelligence*, pp. 2037-2041, 2016. 10. Chaturvedi, A., Kumar, P. and Rawat, S., 2016, October. Proposed noval security system based on passive infrared sensor. In 2016 International Conference on Information Technology (InCITe)-The Next Generation IT Summit on the Theme-Internet of Things: Connect your Worlds (pp. 44-47). IEEE. 11. Kumar, P., Sanchita Kadambari, and S. rawat. "Prefetching web pages for improving user access latency using integrated Web Usage Mining." In 2015 Communication, Control and Intelligent Systems (CCIS), pp. 401-405. IEEE, 2015.	**3616-3619**

622.	**Authors:**	**Bhaskarjyoti Saikia, Minati Das**	
	Paper Title:	**Optimisation of Smart Water to Enhance Oil Recovery Efficiency in a Part of Oil Field of Upper Assam Basin, India**	
	Abstract:Researchers have proved the significance of water injection by tuning its composition and salinity into the reservoir during smart water flooding. Once the smart water invades through the pore spaces, it destabilises crude oil-brine-rock (COBR) that leads to change in wettability of the reservoir rocks. During hydrocarbon accumulation and migration, polar organic compounds were being adsorbed on the rock surface making the reservoir oil/mixed wet in nature. Upon invasion of smart water, due to detachment of polar compounds from the rock surfaces, the wettability changes from oil/mixed wet to water wet thus enhances the oil recovery efficiency. The objective of this paper is to find optimum salinity and ionic composition of the synthetic brines at which maximum oil recovery would be observed. Three core flood studies have been conducted in the laboratory to investigate the effect of pH, composition and salinity of the injected brine over oil recovery. Every time, flooding has been conducted at reservoir formation brine salinity i.e at 1400 ppm followed by different salinities. Here, tertiary mode of flooding has been carried out for two core samples while secondary flooding for one. Results showed maximum oil recovery by 40.12% of original oil in place (OOIP) at 1050ppm brine salinity at secondary mode of flooding. So, optimized smart water has been proposed with 03 major salts, KCl, MgCl2 and CaCl2 in secondary mode of flooding that showed maximum oil recovery in terms of original oil in place. **Keyword:**COBR Interactions, Oil Recovery Efficiency, Polar Compounds, Smart Water, Wettability Alteration **References:** 1. Austad, Tor (2012): 'Water Based EOR in Carbonates and Sandstones: New Chemical Understanding of the EOR-Potential Using "Smart Water", Muscat, April, 2012, University of Stavanger, Norway, 4036 Stavanger, Elsevier, 2012. 2. A. Lager, K. J. Webb, I. R. Collins, and D. M. 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623.	**Authors:**	**Damera Priyanka, Mamidala Soujanya, Syed Abdul Moeed**	
	Paper Title:	**Framework towards the Process of Estimating or Predicting Perceived QoE Based on the Datasets Obtained From the Mobile Network**	
	Abstract:Nowadays, the research study community visualizes a standard shift that is going to put the focus on Quality of Experience metrics, which relate directly to complete consumer satisfaction. Yet, determining QoE coming from QoS sizes is a daunting job that powerful Software Defined Network operators are currently able to tackle through artificial intelligence strategies. In this paper, our experts pay attention to a few essential QoE factors, and we to begin with proposing a Bayesian Network design to anticipate re-buffering proportion. This paper suggested a structure for modeling mobile network QoE, making use of the vast records analytics approach. The planned platform explains the method of estimating or forecasting perceived QoE based upon the datasets obtained or collected from the mobile network to enable the mobile network operators efficiently to deal with the network functionality as well as supply the individuals an adequate mobile Internet QoE. **Keyword:**mobile, network, datasets, prediction **References:** 1. B. A. A. Nunes, M. Mendonca, X.-N. Nguyen, K. Obraczka, and also T. Turletti, "A questionnaire of software-defined media: Past, existing, and also future of programmable networks," IEEE Communications Studies & Tutorials, vol. 16, no. 3, pp. 1617-- 1634, 2014. 2. G. Dimopoulos, I. Leontiadis, P. Barlet-Ros, as well as K. Papagiannaki, "Assessing Online Video QoE from Encrypted Traffic," in Proc. ACM IMC, 2016.	**3627-3631**

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624.

Authors: **Ambili A.V., A. V. Senthil Kumar, Amit Dutta**

Paper Title: **Early Dementia Diagnosis Based on DNN Based Correlational Analysis and Fisher Criterion Based LDA using Morphological Brain Multiplexes**

Abstract:The expanding recurrence of dementia happening is a disturbing patterning that has incited dire research intending to avert the improvement of the sickness. Diagnosing dementia in its beginning periods is an urgent advance in averting the improvement of the ailment into exacerbated side effects. Early mild cognitive impairment (EMCI) is the early symptom of dementia. This can be analyzed using mapping mind associations utilizing Magnetic Resonance Imaging (MRI). In the approach, for improving the correlational block, we presented an enhanced classifier also, for improving the performance of discriminative block, an optimized LDA is to be proposed. For correlational analysis, Deep Neural Network (DNN) is presented in this work. Besides, for discriminative analysis, a novel and efficient feature selection method is presented. Fisher criterion is used to select the most discriminatory and appropriate features to ensure consistent feature selection and classifier learning goals and to improve the classifier's performance. In the Mat lab framework this proposed method is implemented. The performance of this proposed approach is evaluated concerning Accuracy, Sensitivity, and Specificity.

Keyword: Brain multiplex, Correlative analysis, Dementia, discriminant analysis DNN, Fisher criterion

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	2019 14th ACM/IEEE International Conference on Human-Robot Interaction (HRI) (pp. 564-565). IEEE.		
625.	**Authors:**	**Chukwuemeka C. Obasi, Ikharo A. Braimoh, Vincent A. Balogun, Alphaeus Odaba, Leonard I. Ogbewey**	
	Paper Title:	**Computational Analysis of Kinematics of 3 – Links Articulated Robotic Manipulator**	
	Abstract:The Computational Analysis of Kinematics of 3 – Links Articulated Robotic Manipulator has been presented in this. The design of robot manipulators requires accurate computational analysis, involving the geometric position of the linking arms. The method of Forward Kinematics and Inverse Kinematics were employed in estimating the robotic arm's position with respect to link lengths and angle, in which the angle required to move the end effector to a desired position is estimated and determined. A three link robotic arm with a rigid rotational base was also illustrated using free body diagrams, and computational estimation of the required parameters. The outcomes of the forward kinematics reveals that the robot end effector position can be estimated using the values of x, y, and z coordinates thereby providing a better means of controlling or adapting robot's arm/motion to its environment. **Keyword:**Articulated Robot; End effector; Forward Kinematics; Free Body Diagram; Inverse Kinematics; Planar Robot; Robotic; Rigid Body; Robot Arm. **References:** 1. H. Harry Asada, "Introduction to Robotics: Chapter 4", Massachusetts Institute of Technology. 2. Ben-Ari M., Mondada F., Kinematics of a Robotic Manipulator. In: Elements of Robotics. Springer, Cham (https://doi.org/10.1007/978-3-319-62533-1_16), 2018. 3. Maplesoft, "Robot Manipulators Position, Orientation and Coordinate Transformations", Available at https://www.maplesoft.com/content/EngineeringFundamentals/13/MapleDocument_13. 4. Sırma Ç. Yavuz, "Kinematic Analysis for Robot Arm", 2009, Available at http://www.emo.org.tr/. 5. Ben-Ari M. and Mondada F., "Elements of Robotics", Springer Open, 2018. Available at https://doi.org/10.1007/978-3-319-62533-1. 6. Kucuk S. and Bingul Z., "Robot Kinematics: Forward and Inverse Kinematics", Industrial-Robotics-Theory-Modelling-Control, ARS/plV, Germany, 2006, pp. 964. 7. Kumar V., "Introduction to Robot Kinematics", Available at https://ipvs.informatik.uni-stuttgart.de/mlr/marc/teaching/14-Robotics		**3640-3643**
626.	**Authors:**	**Arunprasath R, Vijayakumar D, Rathinakumar M, Meikandasivam S, Kirubakaran A**	
	Paper Title:	**Performance Examination of SEPIC Based Hybrid Cascaded Single-Phase Multilevel Inverter**	
	Abstract:In the present scenario, reduced part count(RPC) multilevel inverters are become popular compared to traditional multilevel inverters(MLIs). This is mainly due to reduced size and cost and alleviates the issues of more passive components, flying capacitor voltage balancing issues and the requirement of complex switching schemes. Also, the RPC is getting attraction for various industrial and transportation applications. Therefore, in this paper, a novel 17 level inverter is proposed by cascading MLIs with the reduced part count. The complete operation, switching schemes and output are presented to evolve the performance under steady-state conditions using MATLAB software. **Keyword:**Multilevel inverter, DC-DC boost converter, sinusoidal pulse width modulation (SPWM); **References:** 1. Xing Tao Sun, "Hybrid Control Strategy for a Novel Hybrid Multilevel Inverter", IEEE conference on E-product, E-Service and E-Environment, pp. 1-4, 2010. 2. Yi Wang, Heming Li, Xinchun Shi, and Boqiang Xu "A novel carrier based PWM strategy for hybrid multilevel inverters", IEEE 35th Annual Power Electronics Specialists Conference, pp.4233-4237, 2004. 3. Jammy Ramesh Rahul, A. Kirubakaran, and D. Vijyakumar "A New Multilevel DC-DC Boost Converter for Fuel Cell Based Power System". IEEE Students' Conference on Electrical, Electronics and Computer Science, pp.1-5, 2012. 4. Lai YS, and Shyu FS. "Topology for hybrid multilevel inverter", IEE Proceedings-Electric Power Applications, vol.149, pp.449-458, 2002. 5. P. Thounthong, S. Sikkabut, P. Sethakul, and B. Davat, "Model Based-Control of Three-Level Boost Converter for Fuel Cell Applications,"10th International Conference on Environment and Electrical Engineering, pp. 1-4, 2011.. 6. Palanivel, P. and Dash, S.S. "A FPGA based Variable switching frequency Multi-carrier Pulse width modulation for Three phase Multilevel Inverter", control, Automation, Communication and Energy Conservation, pp. 1 - 4, 2009. 7. J. Rodriguez, J. S. Lai, and F. Z. Peng, "Multilevel inverters: a survey of topologies, controls, and applications," IEEE Trans. on Industrial Electronics, vol. 49, No. 5, pp. 724-738, 2002. 8. L.M. Tolber, T.G. Habetler, "Noval multilevel inverter carrier based PWM methods", IEEE IAS Annual meeting, pp. 1424-1431. 1998. 9. Eenstra, M.; Rufer, A. Hegner, "Control of a hybrid asymmetric multilevel inverter for competitive medium-voltage industrial drives", Industry Applications, IEEE Transactions on Digital Object Identifier, 41(2) pp. 655–664, 2005. 10. R. Arunprasath, D. Vijayakumar, M. Rathinakumar, S. Meikandasivam, and A. Kirubakaran, "Performance Evaluation of SEPIC Based Single-Phase Seven-Level Inverter for Renewable Applications", International Journal Renewable Energy Research, pp.1-8, 2019.		**3644-3648**
627.	**Authors:**	**SP. Maniraj, G. Surya Reddy, Anant Bhardwaj**	
	Paper Title:	**Automatic License Plate Recognition using MATLAB**	
	Abstract:As name characterizes perceiving a number plate consequently, from past decades the use vehicles expanded quickly, in light of this such a significant number of issues like overseeing and controlling Traficant eye on taken autos and overseeing parking area zones to defeat this we need tag recognizer programming so as to discover vehicle through tag ,this will assist us with making fines on vehicles who abuses traffic, charging at		**3649-3653**

tollgates and most significant thing is help a ton when a vehicle is taken. For this we are presenting ALPR utilizing MATLAB, here we are applying picture preparing strategies at different advances preprocessing, character division and acknowledgment utilizing layout matching.in request to expel loud of the picture and increment nature of picture to encourage figuring process by changing characters in the picture into individual content.

Keyword: For this we are presenting ALPR utilizing MATLAB,

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Authors:	**Pranati Satapathy, Sarbeswara Hota, Sateesh Kumar Pradhan**	
Paper Title:	**Exploring the Extreme Learning Machine for Classification of Brain MRIs**	

628.

Abstract:Magnetic Resonance Imaging (MRI) technique of brain is the most important aspect of diagnosis of brain diseases. The manual analysis of MR images and identifying the brain diseases is tedious and error prone task for the radiologists and physicians. In this paper 2-Dimensional Discrete Wavelet Transformation (2D DWT) is used for feature extraction and Principal Component Analysis (PCA) is used for feature reduction. The three types of brain diseases i.e. Alzheimer, Glioma and Multiple Sclerosis are considered for this work. The Two Hidden layer Extreme learning Machine (TELM) is used for classification of samples into normal or pathological. The performance of the TELM is compared with basic ELM and the simulation results indicate that TELM outperformed the basic ELM method. Accuracy, Recall, Sensitivity and F-score are considered as the classification performance measures in this paper.

Keyword: Wavelet Transformation, Principal Component Analysis, Extreme Learning Machine, Magnetic Resonance Imaging.

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629.

Authors: **Shaik Mahammad Rafi**

Paper Title: **Transition Metal Oxide-Based Perovskite Structures as a Bifunctional Oxygen Electrocatalysts: Fe Doped LaCoO3 Nanoparticles**

Abstract:In this report, we have investigated lanthanum cobalt iron (LaCo1-xFexO3) perovskite nanoparticles synthesized by combining metallic nitrates, deionized water, and citric acid by using sol-gel method and subsequently calcinated at 400 °C for 1h and 900 °C for 7h, respectively. The formation of single-phase perovskite structure is a series of LaCo1-xFexO3 (x = 0, 0.2, 0.4, 0.6, 0.8, 1). The crystal structure, mean particle, and morphology properties of the prepared LaCo1-xFexO3 perovskite oxide nanoparticles were examined by X-ray diffraction (XRD), field emission scanning electron microscopy (FESEM). The perovskite structure has shown special performance for oxygen reduction reaction (ORR) and oxygen evolution reaction (OER) catalytic activity in alkaline medium. As the combined valence transition metal oxides are rising capable candidates for bifunctional electrocatalysts, the electrochemical performance of the LaCo1-xFexO3 catalyst was thoroughly investigated. Koutecky-Levich results on the ORR polarization curves of all compounds shows that the four-electron pathway is favorable on these perovskite oxides. In this paper, we report B-site Fe doping in perovskite structure is a sufficient strategy to improve ORR and OER catalytic activity for application in metal-air batteries.

Keyword: Metal-air batteries, Bifunctional catalyst, Perovskite oxides, Electrochemical behavior.

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630.

Authors: **Chetanya Singh**

Paper Title: **Factors Affecting the Sales of Airlines in India with Special Reference to Air India**

Abstract:India's aviation industry is largely untapped with enormous growth opportunities, provided that air transport is still expensive to most of the country's population, almost 40 per cent of whom are the upwardly mobile middle class. The industry will engage and work with policy makers to adopt effective and rational decisions to improve India's civil aviation industry. The primary aim is to identify the factors responsible for low sales of Air India. Secondly, the aim is to evaluate the causal relationship between factors identified and the dependent variable airline choice. It was found that Air India should reduce the cost of ticket on both domestic and international flights. Customer doesn’t find services delivered up to the mark. The quality of food, service of cabin-crew, lateness of flight and safety should be improved by Air India to remain competitive in the market. It has become and more imperative for the Air India to prove its mettle and not just settle on the taxpayers money bailed out by the exchequer but also on price, service and safety ground.

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Keyword: Sales, Air India, Airlines, India

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631.	**Authors:**	**P. Sumalatha**
	Paper Title:	**Optimization of Productivity Measures to Improve Performance of Selected Banks – Indian Perspective**

Abstract:Efficiency or productivity is one of the significant estimates which help in measuring the development and advancement of economy of the nation. The efficiency has a pivotal influence in authoritative accomplishment of greatness which is basic for dynamic culture. Ideal efficiency of an organization relies upon coordination between all data sources that yield most extreme gainfulness with least exertion. Thus the present research is centre around a goal of recognize and look at the components impacting the efficiency just as benefit execution of selected banks in India both in public and private sector. For which a sample of twenty banks were selected. The time frame considered for the research is ten years from 2008 to 2018. The procedure which is utilized in the present research is correlation analysis which explains the connection between the selected factors. Regression analysis is also utilized to dissect the effect of selected independent factors, for example, magnitude of sales, value addition, cost of sales, profit before tax (PBT) of each worker. Dependent factors encompass of return on assets and return on value addition by fixed assets. Furthermore, free example test is utilized to survey the connection among profitability and execution proportions of selected banks in India both in public and private sector. In this manner, the outcomes from correlation analysis demonstrate that practically all the independent factors aside except from sales volume and cost of sales in selected banks in India both in public and private sector. Results from regression analysis shows that business per worker is having noteworthy negative effect on ROA.

Keyword: Efficiency measures, Return on Assets, Cost of Sales, Regression Analysis, Banks in Public and private sector.

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632.	**Authors:**	**Pradeep Kumar Sahu, Satyaranjan Jena, Geetanjali Dei**
	Paper Title:	**Design of Multi-loop Current Control Strategies for LCL Filtered Grid-connected PV System**

Abstract:This paper presents numerous feedback current controller methods for the grid-connected PV systems incorporating with third order LCL filter. The various potential dual-loop feedback current controller schemes for a

grid-tied electrical converter and a comparison among these controllers are made based on their performance. The effectiveness of these current controllers are based on various views like performance under polluted grid condition and also the dynamic performance of two control schemes under different transient conditions. A commonly used PI controller are employed in all cases of multi-loop controllers and also the electrical converter used here is operated in voltage control mode. In this work, a third-order low-pass LCL filter is employed to minimize the high order harmonics which are created due to the switching of the converter. The LCL filter is incorporated among the dc-ac converter and the utility grid. Two current regulation techniques are focused here. The design, analysis and the performance of these controllers are briefly discussed in this paper. By comparing their performance, anyone can suggest their applications in the grid-tied PV systems. All the current control schemes are incorporated with a grid-connected system of 2-KVA voltage source inverter. Simulation results are produced to validate the performances of two current control schemes. The output ohmic resistance of VSI is taken into account here for their performance analysis.

Keyword: Voltage source Inverter (VSI), Low-pass LCL filter, Grid-connected PV system, Dual-loop current control schemes, power quality.

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Authors:	**Pamarthi Kanakaraja, B. Srikanth Deepak, K. V. Jaya Nikhil, Y. V. S Pavan Rakesh, K. Naga Venkatesh**
Paper Title:	**Home Automation and Security using Raspberry Pi and Whatsapp**

Abstract:This paper presents an ingenious remotely sensible system that controls the home appliances by using WhatsApp. This is an IOT based model designed and developed by using Raspberry Pi-3. In this proposed system of home automation, the feasibility of executing certain important tasks with higher controllability and remote access have been incorporated. Home appliances such as lights, fans, air conditioners, power driven electrical and electronic commodities etc., are made to control from any part of this world, using a mobile phone with WhatsApp installed in it. For ensuring this functionality, a web interface has been developed using the Raspberry Pi, as a web server for operating and controlling the home appliances through any Wi-Fi accessible mobile device with WhatsApp feature.

Keyword: Dht11sensor, Mobilephone,Pirsensor, Raspberry pi, ThingSpeak, WhatsApp

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Authors: **Mahendran G, Jayabalan C, Palani S, Sathish kumar R, Youvaraja S**

Paper Title: **CATIA V5 ANSYS Based Performance Enhancement on Disc Brake**

Abstract:In the modern automobile vehicles the system of braking is the main primary essential parts. It takes up the wheel kinetic energy then dissipates it as heat energy and decelerate or else vehicle stop. While apply the disc brake high stress is generated, therefore problem of frictional wear occur. In order to enhance the functional performance, take thermal analysis for selecting minimum heat flexes material. In this research work, software of Catia v5 as well as ANSYS is used for creating modal and analyzing. The Suggest result materials are fabricated using stir casting method and conducting wear test.

Keyword:ANSYS, Braking System, CATIA V5, Thermal Analysis

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Authors: **Susmitha Thota, Gollamudi Padma Rao, Imandi Manga Raju, Siva Rao Tirukkovalluri**

Paper Title: **Sol-Gel Synthesized N and Mn Co-Doped TiO2 Nanomaterial for Photocatalytic Degradation of Malathion under Visible Light Irradiation**

Abstract:Different weight percentages (0.25-1.00 wt%) of Nitrogen (Non-Metal) and Manganese (Metal) co-doped nano titania were synthesized by sol-gel method and characterized by XRD, UV-vis.DRS, FT-IR, XPS, SEM and TEM. The XRD results has shown that all the prepared catalysts are in anatase phase indicating that co-doping of N and Mn did not affect the crystal structure of TiO2. From the UV-vis.DRS spectra a significant absorption shift towards visible region was noticed in N and Mn co-doped TiO2 and their presence was confirmed by XPS and FT-IR results. SEM and TEM results showed spherical nanoparticles with average particle size of 9 nm. Photocatalytic efficiency of synthesized nano materials was tested on non-biodegradable organophosphorous pesticide, Malathion under visible light irradiation. The effect of dopant concentration, pH, catalyst dosage, and initial pesticide concentration on photocatalytic degradation of malathion was studied and optimum conditions were established. Among the synthesized samples 0.50 wt% N & 1.00 wt% Mn-TiO2 exhibited best photocatalytic performance. Photoluminiscent spectroscopy (PL) was used to examine the rate of production of oxidative species, hydroxyl radicals which play key role in photocatalytic degradation.

Keyword: Malathion, Manganese, Nitrogen, Sol-gel method, Titanium dioxide, Visible light.

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Authors: **P. Neelakanteswara, G.Kalyan Chakravarthy, Ram Kumar Madupu, Dorababu Sudarsa**

Paper Title: **Computer Based Bone Breakage Detection using Machine Learning Techniques**

Abstract:X-Ray is one of the most commonly used medium to extract the images of any bone in the body.Fracture of a bone is most common in recent days due to accidents or any means.In order to detect whether there is a fracture or not the orthopaedics suggest for x-ray.In many places due to more patients there might be a delay of doctor consult which may leads to the increase in the severity of problem.In order to avoid this we have proposed an automatic bone fracture detection system where a system is trained about the fractures and further used to detect the fractures in a bone in the x-ray images.ANN,PNN.BPNN are the classifiers used for bone fracture detection where BPNN has given more prominent results compared to ANN and PNN with an accuracy of 82%.

Keyword:ANN,PNN,BPNN,X-Ray,Fracture,

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Authors: **A. Raveendra, Raghuram Pradhan, Ashok M R, D. Muruganandam, J.Jayapriya**

Paper Title: **Characterization of Roselle & Kevlar hybrid Composites**

Abstract:This paper center essentially around the ongoing patterns and advancements in Bio compounds as connected to the therapeutic and building industry, refering to certain models. Present research is Alkali treated along with Silane treated and untreated fibres hybrid composite was prepared and all the types of physical and chemical properties studied. All the Silane treated composite shown enhanced concert than untreated composite. Performance possessions of composite devising various tenders in textile& non textile. Silane has an added advantage both physical and chemical properties enhancement.

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Keyword: Silane Treatment; Roselle; Kevlar; Hybrid Composites; Structural Bio compounds.

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Authors: **Ekta Gupta, Rajdavinder Singh Boparai**

Paper Title: **Dynamic Bit Coin Value Prediction**

Abstract:Bitcoin is online money that is utilized worldwide to make online installments. It has thusly become a venture vehicle in itself and is exchanged a route like other open monetary forms. The capacity to foresee the value change of Bitcoin would in this way encourage future venture and installment choices. The objective of this paper is to learn with what exactness the bearing of Bitcoin cost in USD can be anticipated. The value information is sourced from the Bitcoin Price Index. The errand is accomplished with changing degrees of achievement through the usage of a Bayesian streamlined intermittent neural system (RNN) furthermore, a Long Short Term Memory (LSTM) arranges. The LSTM accomplishes the most noteworthy order precision of 59%.

Keyword: Bit-coin; ARIMA; Machine learning; Crypto Currency; Price Prediction.

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Authors: **V. Radhika, B. Sharmila, R. Ramya, M. Gopisri**

Paper Title: **Design and Implementation of Agrobot with Automatic Sun Tracking**

Abstract:Advancement in recent technology introduces the agriculture robotics. These robots can be harvesting stage, pesticide spraying, weed control, automatic milking and many other applications. These robots can replace the human labor and improve the production rate. To meet up the future demands and to overcome the disadvantages of the traditional methods, a agrobot that can do seed sowing along with soil testing process with automatic sun tracking solar panel manner is proposed in this paper. The agrobot will move around various ground contours, digs the ground, sows the desired number of seeds and cover it with the soil. Then adequate content of water is poured in to the ground according the texture of ground. This agrobot also do the soil testing process and

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	the results of solid testing process can be viewed in the mobile phones through GSM module. This paper gives the complete installation details of the agricultural robot. This proposed agrobot is able to sow the seed, monitors the soil fertility, moisture content along with the automatic sun tracking solar panel. **Keyword:**Agrobot, Moisture Sensor, pH Sensor, Ultrasonic Sensor, Solar Panel. **References:** 1. P.Sreelakshmi,Gaggara Harika,Kavya Karat,"Automated Agrobot", Indian Journal of Science and Technology,vol.9,No.4,pp.30-32,2016. 2. AnujaMohalkar, Priti Mohite, ShubhangiNagare, "Automatic Seed Sowing Machine using Solar Panel",International Journal Of Innovations in Engineering Research And Technology,vol.2,no.3,pp. 2394-2396, 2017 3. Thorat Swapnil V, Madhu L. Kasturi, Patil Girish V, Patil Rajkumar N "Design and Fabrication of Seed Sowing Machine", International Research Journal of Engineering and Technology (IRJET), vol.4,no.9,pp.704-707,2017. 4. Saurabh Umarkar and Anil Karwankar, "Automated Seed Sowing Agribot using Arduino", International Conference on Communication and Signal Processing, Vol.32,No.6,pp.6-8,2016 5. Sridevi P C, Mr. KhajaMoinuddin, "Design and Development of Automated Soil Quality Management System using LabVIEW", International Journal of Innovative Research in Electronics and Communications,vol.2,no.2,pp.8-15,2015. 6. Prof.PranilV.Sawalakhe,AmitWandhare,AshishSontakke, "Solar Powered Seed Sowing Machine",Global Journal of Advanced Research,Vol.2,No.3,pp.712-717,2015. 7. Mr.Sagar R. Chavan* , Prof. Rahul D. Shelke, Prof. Shrinivas R. Zanwar, "Enhanced Agriculture Robotic System", International Journal of Engineering Sciences and Research Technology,vol.4,no.2,pp.368-371,2015. 8. Calvin Hung, Juan Nieto, Zachary Taylor, James Underwood and Salah Sukkarieh, "Orchard Fruit Segmentation using Multi-spectral Feature Learning",International Conference on Intelligent Robot System, vol.4,no.3,pp.3-7,2013. 9. Shrinivas R. Zanwar, R. D. Kokate, "Advanced Agriculture System", International Journal of Robotics and Automation,Vol.1, No. 2, pp. 107-112,2012 10. Chengliang Liu, Mingjun Wang, and Jun Zhou, "Coordinating control for an agricultural vehicle with individual wheel speeds and steering angles", IEEE control systems magazine,vol.2,no.3,pp.21-25,2008	
	Authors:	**R. Sambasiva Nayak, P. Karpagavalli**
	Paper Title:	**Twin Band-Notched Ultrawideband MIMO Antenna**
640.	**Abstract**:In this article, we have presented various techniques that are used for improving different parameters related to UWB antenna. In this Paper, we planned for MIMO antennas in contemporary wireless communication which enhances the bandwidth and gives compact antennas. The antenna band we notched is of planned MIMO which offers an bandwidth with the operational band-notched. The bandwidth capacity of the antenna is from 2.93-20 gigahertz with sharp rejection at WLAN-band with isolation of not exactly - 22 dB is accomplished for the whole band, by utilizing a simple modified shaped structure in the bottom plane, port isolation and transmission capacity are improved. The diversity execution performance is likewise contemplated and whole outcomes shows it's a potential point of using MIMO based diversity antenna for ultra wide band applications which is demonstrate in this paper. The parameters to assess the performance of the MIMO are explained, the whole examination completed in different sections has been outlined. **Keyword:**DGS, UWB, SRR and MIMO **References:** 1. Kang, Gong, "Compact broadband printed slot-monopole-hybrid diversity antenna for mobile terminals," IEEE Antenna and Wireless Propagation Letters, vol. 10, pp. 159–162, 2011. 2. I. Yuk, "Compact MIMO antenna for portable devices in UWB applications," IEEE Transactions on Antennas and Propagation, pp. 4257–4264, August 2013. 3. Mohammad, Ali nezhad "A dual-band WLAN/UWB printed wide slot antenna for MIMO/diversity applications," Microwave and OpticalTechnology Letters, vol. 55, pp. 461–465, March 2013. 4. Sonkki and E. Salonen, "Low mutual coupling between monopole antennas by using two slots," IEEE Antenna and Wireless Propagation Letters, vol. 9, pp. 138–141, 2010. 5. Crespo, and C. Ling, "UWB portable prin ted monopole array design for MIMO communications," Microwave and Optical Technology Letters, vol. 52, pp. 889– 895, April 2010. 6. K. Mishra, and J. Mukherjee, "A compact dual-band fork- shaped monopole antenna for Bluetooth and UWB applications," IEEE antenna and wireless propagation letters, vol. 10, pp. 627-630, 2011. 7. P. Tran and A. Sibille, "Spatial multiplexing in UWB MIMO communications," Elec-tronics letters, pp. 931–932, August 2006. 8. Chandel, Gautam and Binod Kr. Kanaujia, "A Compact Rhombus-shapedSlot Antenna Fed by Microstrip-line for UWB Applications," International Journal ofMicrowave and Wireless Technologies, pp. 1-7, 2015. 9. N. Alsath and M. Kanagasabai, "Compact UWB monopo le antenna for automotive communications," IEEE Transactions on Antennas and Propagation, vol. 63, pp. 4204-4208, Sep 2015.	**3711-3715**
	Authors:	**D. Girish, Sunny Agarwal**
	Paper Title:	**Utilization of Storm Water Management Model for Urban Flood Scenario**
641.	**Abstract**:Majors cities in India have witnessed huge floods from past few decades. Due to rapid population growth and improper urban planning the chances of creek, localised or flash urban floods have drastically increased. Climatic changes are also a key reason for heavy rainfall that increases the flood volume and depth in a catchment. Modelling of Storm water plays a key role in estimating flood runoff quantity and quality. To check these issues SWMM is used to simulate floods scenario in Urban areas. This hydrological study is carried out to simulate and understand the rainfall runoff characteristics of the study area by using SWMM. It is an effective tool used for simulating flash floods and runoff in urban areas. In this study catchments have been subdivided into 14 parts and modelled for year 2017 rainfall events of 1-hr interval. The present study area is evaluated by importing AutoCAD map of the area in SWMM. Further Rainfall Data is imported as time series in the model. The results depict that	**3716-3721**

the Runoff for the Sub catchments of S1, S2, S3, S9, S13 blocks are maximum. The study states that no nodes are flooded and also no overflow sections. Thus, the selected study area storm network system has been well planned and has enough carrying capacity to carry the simulated rainfall for a prolonged duration.

Keyword: AutoCAD, Flash Floods, Scenario, Sub catchments, SWMM.

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Authors: **Rajasekaran Ekambaram, R. Meenal, Prawin Angel Michael, R. Indupriya**

Paper Title: **Existence of Nano Level Force in Protein Plays Applications of Maximum Untold Understanding of Life Form**

Abstract:There are many interactive forces between atoms applied to solve the problem of nature of molecules. One would go on applying this to several diseases and sufferings. On doing so, we have discovered that a new dimension of atomic arrangements playing a role in existence of force of interaction at nano level say at 1.6 nm. Arrangements are in such way that it maintains a carbon fraction of 0.3144 in the structure of biologically important molecule called protein. Arrangements are important from maintaining structure and another way of interaction due to the deficiency of this domain formation. All our analysis conclude that there is new kind of force of attraction available for advancing the science here in biology and other field as well as other elements possess this nano level forces of attraction. Our results are validated with crystal availability because of force existence. Otherwise other may have to be studied accordingly. Bond of all atoms involved in domain formation are altered from original value of bond formation but increased or decreased according to the type of bonds. Alteration can be a measure of this newly identified nano level force of interaction. Our analysis can be extended to other problems in our science of untold answer.

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Keyword:atomic force, carbon nano level network, crystal analysis, nano force.

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643.

Authors: **Sumitra Nuanmeesri**

Paper Title: **Development of Low-Cost Auto Robot for Plastic Floating Garbage Collection using IoT**

Abstract:Nowadays, there is still much plastic waste floating in the sea and rivers, causing a limited number of officials to take care of this waste is not thoroughly. In this paper propose to develop the low-cost auto robot from waste materials based on Internet of Things for grabbing and collecting the floating garbage in the closed of water pool. The sensors and motors were mixed to control the robot on water surface and collect the plastic floating waste which is detected by sensors. To classified the floating garbage, the Fast Approximation Nearest Neighbor algorithm was applied to system in the web platform. The activities for garbage collection were submitted to social media such as LINE notify application. As a result, the auto robot system has the accuracy value at 94.4% and 98.8% for stationary mode and cover mode respectively.

Keyword:auto robot, floating garbage, Internet of Things, image processing, social media.

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Authors: **Sumitra Nuanmeesri, Lap Poomhiran**

Paper Title: **Improving Responsiveness Conversation of Thai Chatbot through Sentiment Analysis Classification Techniques**

Abstract:Nowadays, internet and social media are play and important role for the business and marketing. Especially, the social media marketing drives the businesses with fierce competition. if there is communication between a large number of customers, it is necessary to have the staff to coordinate thoroughly Resulting in higher expenses as well. Chatbot can be solve this problem by action like a human to deliver a suitable message for their customers. This paper proposes the techniques for analyzing the sentiments that coexist with chat messages or the conversations. Naïve Bayes, K-Nearest Neighbor, and Support Vector Machine techniques were used to classify the sentiments based on Cross-Industry Standard Process for Data Mining. As a result, the highest accuracy is produced by Support Vector Machine with value at 94.60% for improving the chatbot able to communicate effectively with sticker messages.

Keyword:chatbot, classification, conversation, sentiment analysis, social media marketing.

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645.	**Authors:**	**Priyanka Shakya, R. C. S. Chauhan**
	Paper Title:	**Realization of Optimized CORDIC Core for Implementing Sine and Cosine Operations**

Abstract:Cordic, which is an iterative vector rotation calculation for different coordination systems, has been proposed in this paper that has low latency and low area utilization. The main limitation is that in comparison to standard CORDIC, the number of micro-rotations necessary increases with the input angle bit-width which leads to additional stages of micro-rotation. In order to overcome this, the most area utilizing stages are recoded using the two bits of the input angle simultaneously such that our suggested technique can achieve a smaller micro-rotation for bigger bit width applications. In this article, using parallel and pipelined CORDIC architecture a Digital sine and cosine generator is intended and applied which utilises optimized Micro-rotation Angle Recoding algorithms to achieve low latency and reduces area of the design. The proposed work reduces the delay by 34%.

Keyword: Cordic; Iterative Approach; Pipelined Analysis; Bbr; Mar;

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646.	**Authors:**	**Manju K. Chattopadhyay, Kavita T. Upadhyay, Rameez R. Chowdhary, Neha B. Pande**
	Paper Title:	**Approximate Adder Implementation using Quantum- Dot Cellular Automata for Digital Signal Processing**

Abstract:We explore quantum-dot cellular automata (QCA) design for approximate computing units in digital signal processors. For this cause, a common approach for design is introduced, and approximation-oriented mirror adders (AMA) are developed. In this work, we compromise power/area efficiency of circuit-level design with accuracy supervision. We compare Approximate Mirror Adder cells designed using conventional CMOS technique and using QCA. Our technique picks fairly accurate adder designs that minimalize the over-all area, hitherto maintaining the ultimate performance by studying their error resilience.

Keyword:QCA, Mirror Adder, Approximation-oriented, nanotechnology

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647.	**Authors:**	**Anita Bai, R. Delshi Howsalya Devi, R. Madana Mohana**
	Paper Title:	**High Performance Network Intrusion Detection System**

Abstract:In this paper, we present intrusion detection system for finding the variant types of attacks in the network. It is the way to enhance the functionality in the network by reducing the chances of risks. ICMP protocol and AES encryption algorithm are used to report the error messages and manage the information being sent from source to destination. If there is any malicious activity occurred in the network, the user will be alerted of it by specifying them the type of malicious activity. As a result it reduces the chances of intrusions and contacting multiple resources for resolving single issue.

Keyword:AES encryption, ICMP protocol, Intrusion detection systems, Network security.

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648.	**Authors:**	**Pramod Sekharan Nair, Kefyalew Aragaw Hailekidan, Vinitha Gangadharan Nair**
	Paper Title:	**Fake News Detection Models and Performances**

Abstract:Fake News detection is a hard problem for decades after the advent of social media. As misinformation, so called fake news continues to be rapidly distributing on internet, the reality has becoming increasingly shaped by false information. Time after time we have consumed or being exposed to inaccurate information. The last few years have been talking about guarding against misinformation and not progressed much in this direction.
The social media is one of the medium where the fake news spreads so rapidly and impact many in a lesser span of time. Machine Learning and Natural Language processing are the core techniques to detect the fake news and stopping from spreading on social media. Many researchers putting their effort in this new challenge to curb down. This paper provides an insight on feature extraction techniques used for fake news detection on soft media. Text feature extraction works with extracting the document information which represent the whole document without loss of the sole information but words which are considered irrelevant were ignored for the purpose of improving the accuracy. Term Frequency Inverse Document Frequency (TF-IDF), BoW(Bag of Words) are some of the important techniques used in text feature extraction. These techniques are discussed with their significance in this paper. One of the important approach, Automated Readability Index is used to test the readability of the text to build the model also discussed in this paper. This paper will play a significant role for the researchers who are interested in the area of fake news Identification.

Keyword: Fake News, Social Media, Fake News Detection, Fake News Identification, TF-IDF Approach, Bag of

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Words.

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Authors: **Balaji L, Muthukannan M**

Paper Title: **GIS Based Land Assessment Identification using GLR and PMR Value**

Abstract:Paper The objective of valuation of a land is to ascertain a market value or benefit value, which is basically determined by the locality of the any land in Madurai City area in 2007 and 2019. The spatial factors are important in deciding the valuation of the land. In order to arrive at frequent value estimation for a land, there are many factors which are tangible and intangible for valuation of a land that accounts for during the process of land valuation. There are many methods used previously for deriving a value of the land, we have the GLR and PMR values based on which the land valuation are being put forth. The already researched method can provide a date for valuing the land our project takes in hand and derives a map structure using GIS technology, for deriving GLR and PMR for an area. Spatial distribution map was formulated with the help of inverse distance weighted technique. Using GLR and PMR, we would be able to identify easily the value of the land, identify the location of the land (latitude and longitudinal location) using Garmin GPS. We declared a comparative statement for the values of the land between 2007and 2019.

Keyword: Land valuation, GIS, spatial distribution, GLR and PMR values

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Authors: **Abdul Rehman Gilal , Hafiz Ahmed Ali, Khisaluddin Shaikh, Ahmad Waqas, Rizwan Ali Abro, Ruqaya Gilal**

Paper Title: **Respect Human Value to Control Software Development Failure**

Abstract:People learn and define their own values to interact in different situations. It is important to know the human values (HV) for dealing humans in better ways. HV can also be helpful for software development managers to make right decisions for managing their teams well. Unfortunately, to a great extent, the very factor is ignored in software engineering (SE). This study aims to provide a basic motivation of the topic to SE researchers to carry out some empirical evidences to control software development failures through respecting software developers' HV. In order to operationalize the study, few disciplines, in which the HV are empirically discussed, are considered to replicate the impacts on software development. The factor HVs is well connected with satisfaction and improvement outcomes in sociology, education and management studies. Likewise, this study also literates the importance of HVs for successful software project development. This study concludes that HV can form strong correlations with software development roles and can be used to minimize the software failure.

Keyword: Software Engineering, Human values, software development, and Publications.

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Authors: **Anita Jindal, Rashmi Priya**

Paper Title: **Landmark Points Detection in Case of Human Facial Tracking and Detection**

Abstract:This paper describes the human facial landmark points detection is very important in the field of image processing as face detect, face identifies, face re-construct, face corners alignment, different head pose and facial expression analysis. Facial landmark is an essential point for applying face processing operation ranging from biometric recognition to mental states. In this paper, Haar cascading face detection technique is used to face detection and tracking. Histogram of Oriented Gradients (hog) has been used for 68 landmark points detection in case of human tracking and detection and support vector machine (svm) classifier are used for 68 landmark points detection for right-left eyebrow, left-right eye, nose, lips, chin, and jaw. The existing methods work effectively but many issues occur in detection as of different head poses, facial expressions, facial occlusion, illumination, colour, shadowing and self-shadowing etc. The performance of experimental results shows the advantages of our purposed method is highly accurate in terms of facial 68 landmark points tracking and detection and less error detection rate with the Multi-PIE database.

Keyword: Face detects, Face tracking, Human Facial 68 landmark points detections.

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Authors: **Saptarshi Paul**

Paper Title: **Bilingual (English to Bengali) Technical E- Dictionary for Aviation OOV Words**

Abstract:E-dictionaries, quite common today are available for multiple languages in monolingual, bilingual and multilingual forms. In NLP they form the core of a series of tools that are used to understand words, sentences and in turn the language itself. These E-Dictionaries work well for any language domain as a whole. For almost all languages E-dictionaries are available, but once specialized technical domains are encountered these E-Dictionaries are quite useless. Aviation is one such specialized domain for which no E-Dictionary, translation or transliteration tool exist. On the other hand the need for such tools for specialized domains are increasing. The tool discussed in this paper is an attempt to bridge the gap that currently exists between English and Bengali languages.

Keyword: Aviation, Air force, Aero-Space, Translation, E-dictionary.

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Authors: **T.Thirumalai, M.Prakashbabu, A. Harsha Varthan Reddy, M.Ramalinga Reddy, A.Raj Kumar**

Paper Title: **Performance of Biodiesel Fuel and Neem Oil Blends in Single Cylinder Diesel Engine**

Abstract:Biodiesel, a promising elective fuel has increased huge consideration because of the anticipated brevity of regular powers. One of the most encouraging options for utilizing customary non-renewable energy sources is the utilization of fluid energizes, for example, biodiesel got from neem oil by means of transesterification forms speaks to one of the most suitable alternatives for the utilization of regular petroleum derivatives. In this venture, within the sight of a homogeneous corrosive impetus, the oil is changed over into butyl ester known as biodiesel. The physical properties of neem oil, neem butyl ester, such as density, flash point, Kinematic viscosity, fire point and Pour point, have been found. To request to acquire the information for investigation, similar attributes test will likewise be led for the diesel fuel Diesel and mixes of neem oils are to be tried in a CI Engine to look at execution and discharge qualities.

Keyword: Neem Oils, CI Engine, Bio Diesel

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Authors: **Sukardi, Andeka, Rizky Ema Wulansari, Tee Tze Kiong, Dedy Irfan**

Paper Title: **Development of Learning Tools Based on Problem Based Learning for Electrical Motorcycle Maintenance Course: Cognitive Ability**

Abstract:This study was designed to evaluate the effectiveness of learning tools based on Problem-Based Learning for the ElectricalMotorcycle Maintenance course in SMKs. This research applieda quantitative research approach and a quasi-experimental research design. The method consists of four stages namely: define, development, design and disseminate. The results of this research wereas follow: (1) An Instructional Design had been developed for motorcycle electrical System at Vocational High School. (2) The effectiveness was 86.26%. Based on the finding, it can be concluded that the tested program is effective to be used. On the other hand, results obtained from this research also proved that PBL-based Learning Devices is giving positive effectson improving student learning outcomes.

Keyword: Problem Based Learning, Cognitive Ability, Electrical Motorcycle Maintenance

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Authors: R.Geetha Ramani, R.Sahayamary Jabarani

Paper Title: Altered Structural Connectivity in Autism Spectrum Disorder

Abstract: Research in Neurological field has been in great trend in recent days, since the need of detection and treatment of various neuropsychological disorders are in increasing order. Automated approaches for the detection are possible by various technological methods. Autism Spectrum Disorder (ASD) is a one such serious disorder which can be diagnosed in early ages of children. The Emerging technology had contributed the neuro imaging techniques to understand the various basic features and characteristics that cause the disorder. This neuro imaging had lead to a better perspective called connectome analysis which deals network structures (connectome) derived from the neuro images and are used in detection and treatment of the disorder. For these analysis functional and structural connectomes / network of brain are utilized. In this work structural connectomes derived from the Diffusion Tensor Imaging of Typically Developing and Autism Spectrum Disordered had been considered . This connectome / network consists of 264 regions (based on PowerNeuron_264 atlas) and thus 69696 connectivity features (connection between regions). Using the structural connectomes, average connectome analysis had been done and 91 connections had been identified as altered in ASD. There are 112 distinct regions involved in these altered connections and are having varied number of altered connections from one to six. 15 regions among them found to have much alteration since more number of (More than 2) altered connectivity are involved with these regions. To prove the finding , Data mining technique, Support Vector Machine was applied over 42 connectivity features (0.06% of original) out of 91 and are involved with the 15 regions filtered and the classification is done (with 82% accuracy) . Classifier rules are utilized in the diagnosis of ASD . The 15 regions extracted through thisprocess are found to be altered in ASD. These altered regions are related to sensory(touch and taste), memory, movements control, Lexical processing, Consciousness and sleep. This proposed system surely have effective use in the process of high dimensional and complex brain data and the identification of typically developed and autism spectrum disordered brain .This methodology can also be used in detection of other diseases, Role of various Regions, influential regions, etc.,

Keyword: Brain, connectome ,diseases, Neuro images

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Authors: **Shubham Shah, Manoj Sharma, Vishal Wankhade, Avinash Kumar Namdeo, Atul Dhakad**

Paper Title: **Mechanical Characterization of FRBC prepared from Coir Fibres**

Abstract:This experimental study demonstrates the consequences of orientation of fibers in fibre reinforced biocomposite materials (FRBC) and its impact on their mechanical behaviour. Various samples of FRBC were synthesized from coir rope using hand layup method and epoxy resin in which orientation of coir rope was varied at 0°, 45° and 90° respectively. Test results reveal enhancements in tensile strength while reduction in flexural rigidity for all the samples of prepared composite in comparison to samples of pure epoxy material. The mechanical behavior of FRBCs is sensitive to the orientation angle of coir fiber in the matrix. The results show improved tensile strength for FE-90 samples by about 28%, but the flexural rigidity declined by about 59% as compared to E-samples. The minimum decline in flexural rigidity is about 16% for FE-00 samples while tensile strength enhanced by about 11% approx. It is concluded that, FRBCs prepared from coir fibres with hand layup method, are light weight and possess improved strength therefore, they are suitable for structural and reinforcement purpose.

Keyword:bio-composite, coir fibre, hand layup, fibre reinforced composite.

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Authors: **Rounak Hazra, Aman Kumar, B. Baranidharan**

Paper Title: **Effect of Various Activation Function on Steering Angle Prediction in CNN based Autonomous Vehicle System**

Abstract:Autonomous or Self-driving vehicles are set to become the main mode of transportation for future generations. They are highly reliable, very safe and always improving as they never stop learning. There are numerous systems being developed currently based on various techniques like behavioural cloning and reinforcement learning. Almost all these systems work in a similar way, that is, the agent (vehicle) is completely aware of its immediate surroundings and takes future decisions based on its own historical experiences. The proposed work involves the design and implementation of Convolutional Neural Network (CNN) enhanced with new activation function. The proposed CNN is trained to take a picture of the road in front of it as input and give the required angle of tilt of the steering wheel . The model is trained using the behavioural cloning method and thus learns to navigate from the experiences of a human agent. This method is very accurate and efficient. In this paper, for the detection of object and vehicle in autonomous vehicle, the existing Tensorflow object Detection API is collaborated with pretrained SSD MobileNet model. This paper presents in detail literature survey on various techniques that have been used in predicting steering angle and object detection in self driving car. Apart from that, the effect of activation functions like ReLU, Sigmoid and ELU over the CNN model is analysed.

Keyword: Autonomous driving vehicle, Residual Net, Convolutional Neural Network , Activation function .

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Authors: **Rathinapriya Vasu, Bhumikka UD, Divya.K**

Paper Title: **An Exigent Device that aids to Educate the Attention Deficit Hyperactivity Disorder (ADHD) Children**

Abstract:ADHD called the Attention Deficit Hyperactivity Disorder is predominant among the children and the teens. Children having ADHD has differences in the way they persevere things and also has slight variation in their brain development that affects attention, the ability to focus and self control. Thus children with ADHD face obstacles in their path towards success than the normal student. These children get bored with the tasks and get distracted easily. Completing their routine would be a difficult task for them. They are unable to sit still in the class and they roam around. In order to overcome this difficulty in learning among ADHD children Virtual Reality can be implemented. These ADHD children could use VR glasses for simulating their vision and creating a immersive 3D environment. VR headset will put forth a screen in front of the eyes which eliminates the contact with the real world .By doing so, they can learn things without any boredom and they will have a feeling of being in motion. This helps to increase their ability to concentrate.

Keyword: Virtual Reality, ADHD, VR glass

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Authors: **Aleksanyan G.K., Gorbatenko N.I., Kucher A.I., Shcherbakov I. D., Katsupeev A.A**

Paper Title: **Development and Research of a Current Source for Electrical Impedance Tomography**

Abstract:The probe current source is an essential component of equipment in electrical impedance tomography (EIT). This article discusses the development of a current source for an EIT - from a block diagram to a hardware implementation. A methodology for determining the output resistance of a current source is described, an experimental bench and the results of an experimental evaluation of the source output resistance - the most important parameter of current sources determining its characteristics - are presented.

Keyword:electrical impedance tomography; current source; output resistance; experiment.

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Authors: **Meenu , Sunila godara**

Paper Title: **Phishing Detection using Machine Learning Techniques**

Abstract:Phishing is a type of cyber-crime where spammed messages and false sites allure exploited people to give delicate data to the phishers. The obtained touchy data is along these lines used to take characters or access cash. To battle against spamming, a cloud-based framework Microsoft azure and uses prescient investigation with machine making sense of how to manufacture confidence in personalities. The goal of this paper is to construct a spam channel utilizing various machine learning techniques. Classification is a machine learning strategy uses that can be viably used to recognize spam, builds and tests models, utilizing diverse blends of settings, and compares various machine learning technique, and measure the exactness of a prepared model and figures a lot of assessment measurements. The present study compares the predictive accuracy, f1 score, precession and recall of several machine learning methods including Logistic Regression (LR), Support Vector Machines (SVM), Decision Tree (DT), and Neural Networks (NNet) for predicting phishing emails and improves logistic regression technique by using feature selection methods and improves the accuracy to detect phishing.

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Keyword:DT , LR , NN, Phishing, SVM.

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Authors: **P. Peter Jose, S.P.Victor**

Paper Title: **An Improved Model to Increase Retrieval Time and Security by Data Fragmentation and Replication Process in Cloud**

Abstract:Cloud computing provides several features to users as well as to the organizations. Even though, there are some issues faced by the user while usingthe cloud. Security is a major concern that is always considered. Likewise Data replication is a significant technique to be consideredfor retrieval time. Replication helps to fetch the data from remote which is a high-time consuming process.To overcome the security issue along with data replication a novel approach is proposed in this paper.Dynamic fragmentation is utilized for the division of a file into fragments. Each cloud nodes has a different fragment to enhance the data security of the system. Blowfish technique is used for encrypt the files before storing in cloudthatdivides messages into 64 bits blocks then encrypts them separately. The result of experimental evaluation shows that this schemes increase the overall performance.

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Keyword: Fragmentation, Data replication, retrieval time, data security.

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Authors: **C. Sarala Rubi, J. Udaya Prakash**

Paper Title: **Effect of Drilling Process Parameters on Surface Roughness of LM6/B4C Composites**

Abstract:Metal matrix composites are a new course of materials with superior properties to those of the components. Such materials ' machining is distinct from that of traditional materials. So the optimization of machining process parameters becomes inevitable. By applying Taguchi's Signal-to-Noise ratio method, this paper examines the effects of drilling process parameter such as feed, spindle speed, drill material and percentage reinforcement on the drilled hole's surface roughness. Variance analysis was used to evaluate each system parameter's contribution to surface roughness. The composites were manufactured by stir casting technique using aluminium alloy (LM6) as matrix material and boron carbide particulates at 3%, 6% and 9% by weight as material for the reinforcement. There are four factors investigated each at three levels, so 34 which implies 81 experiments has to be conducted, but by using Design of Experiments approach 27 experiments were conducted using L27 orthogonal array The minimum surface roughness measured for the hole was 1.08 µm at combination of 3000 rpm spindle speed, 50 mm/min feed rate, 3% reinforcement and Carbide drill.

Keyword:ANOVA, Composites, Drilling, Surface Roughness, Taguchi Technique.

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Authors: **Suresh Kumar, M.L.Aggarwal, Lakhwinder Singh**

Paper Title: **Stability of Physically-Loaded Helical Springs used In Smart Fork Lift**

Abstract:In the following section, the behavior of helical compression springs is considered in smart fork lift (established in previous work). We have used commonly used cylindrical and conical shape helical spring as storage devices in which stability defined in term of load-gains, deflections and evaluation of spring-rates. Springs' rates of both springs were compared on a common platform. Initially both springs (helical-conical) was prepared from the coiled wires. These prepared springs also known as coil springs which regain its original form and position when distorted by the loaded in smart fork-lift apparatus. These coils springs here developed by the applying the heat treatment and quenching processes on the galvanized spring steel material by using the threaded shape fixtures. This prescribed work focused on effect of physically-loaded gains by cylindrical and conical shaped helical spring in smart fork lift. Here, springs worked as mechanical devices to bear the lifting load which differed here greatly in strength and in size depending on changing its parameters. Both the cylindrical and conical shape was made of helically coiled wires with constant clearance between the active coils and able to absorbed external counter-acting loads applied against each other in their axis. One direction deformation in axially format was considered.

Keyword: Heat treatment, helical-conical springs, Quenching process, spring –rate, smart fork lift.

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664.	**Authors:**	**Deepak Nayak, Purushotham G. Sarvade, Yash H. Patel, Ekaagra Yadav**
	Paper Title:	**Improvement of Geotechnical Properties of Lateritic Soil using Quarry Dust and Lime**

Abstract:Most of the rural roads are not covered by a wearing layer and sub-base is the topmost layer, hence it should be strong enough to take the load of the vehicles and not wear off due to bad weather conditions. Soil is the basic foundation of all civil engineering systems. Soil must withstand all loads without failure. In some areas, soil may be soft that cannot withstand all types of loads. Soil stabilization is required in such situations. There are different soil stabilization methods are available in the literatures. But the chemical composition of the soil is adversely affected by some approaches such as chemical stabilization. The quarry dust and lime were mixed with locally available lateritic soil to examine the improvement in the geotechnical properties in developing better subgrades for rural roads. This study presents the influence of lime, in the range of 0-5% with crusher dust blended lateritic soil. However, 4% lime addition can be observed as lime fixation point which can provide substantial increase in the workability of the soils and improved strength. Thus the properties of lateritic soil can be improved and hence locally available soil can be used as subgrade in rural road construction.

Keyword: Soil stabilization, Lime, Subgrade, Lateritic soil, crusher dust.

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665.	**Authors:**	**Moka Uma Devi, Uppu Ravi Babu**
	Paper Title:	**Age Group Estimation Model using K-Nearest Neighborhood**

Abstract:Age estimation labels exact real age or age group for a given face image. How to recognise the face of a human depends upon the age invariant features and patterns. After finding out the aging patterns, the researchers are in investigation to find out in what way we can characterise the aging of a face to get accurate performance. We can estimate the age through multi class classification or regression or a combination of both classification and regression. In our paper we are classifying, predicting and evaluating our proposed aging pattern algorithm to estimate the age. The brief process is first we split the data in to two subsets i.e. training data and test data by using stratified cross validation method. By using training data and test data we are classifying or predicting the age group using K-neighbourhood method and evaluation measures are considered by using confusion matrix. The Classification and Evaluation of Age estimation models results us to find out the best estimation model for different types of datasets which are used in different applications like biometric, law enforcement, and security control and human-computer interaction.

Keyword:age estimation, K neighbourhood, multiclass confusion matrix, prediction, evaluation

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Authors: **R.Harikrishnan, V.Padmathilgam**

Paper Title: **Enhanced Particle Swarm Optimization assisted Cooperative Spectrum Sensing in Cognitive Radio under Rayleigh Fading Scenario**

Abstract:When performing cooperative spectrum sensing by using Soft Decision Fusion (SDF), the weighting coefficients play a major role in the detection performance. In this work, by utilizing the Enhanced Particle Swarm Optimization (EPSO) is optimization of the weighting coefficient vector is carried out. The EPSO selects the best weighting coefficients from the weighting coefficient vector. The detection accuracy of the EPSO technique is evaluated and contrasted with traditional PSO, GA (Genetic Algorithm) and also with traditional Soft-Decision Fusion (SDF) methods by using MATLAB simulations. From simulation results, it is inferred that the proposed technique outperforms all other Soft-Decision methods over Rayleigh channel. An increased detection performance is obtained as inferred from the results.

Keyword: Cooperative spectrum sensing, Rayleigh fading channel, Soft decision fusion, Particle Swarm Optimization, Enhanced particle swarm optimization, weighting coefficient vector.

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Authors: **Utpal Bhattacharjee, Jyoti Mannala**

Paper Title: **Feature Level Solution to Noise Robust Speech Recognition in the context of Tonal Languages**

Abstract:Performance of a speech recognition system is highly dependent on the operational environments. The mismatched ambient conditions have adverse impact on the performance of an Automatic Speech Recognition (ASR) system. The speech parameterization techniques for tonal speech recognition are different from those used for non-tonal speech recognition. It is due to the fact that tonal speech has two components – basic linguistic unit and tone. The basic linguistic unit with different tones convey different meanings. Therefore, the feature set used for tonal speech recognition must have the capability to representing both of them. Tone is determined by the fundamental frequency of the speech signal which is highly sensitive to noise. Since at the time of parameterization of the non-tonal speech recognition systems, these highly noise-sensitive tone related information are discarded, the traditional noise elimination methods used for non-tonal speech recognition fail to deliver robust performance in tonal speech recognition. In the present study, we have analyze the performance of different commonly used feature sets for noisy tonal speech recognition. Hidden Markov Model (HMM) based speech recognizer has been used for performance evaluation. Noise elimination techniques sub-band spectral subtraction and Wiener filter have been used for noise reduction and their relative performance have been evaluated.

Keyword:HMM, Noise elimination, Sub-band spectral subtraction, Tonal speech recognition, Wiener Filter

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Authors: **Ch.Vijaya Sree, P.Krishna Chaitanya, B.Rajesh**

Paper Title: **Power Quality Improvement using Modified Cuk-Converter with Artificial Neural Network Controller Fed Brushless Dc Motor Drive**

Abstract:Power factor rectification converter (PFRC) hinged bridgeless modified CUK (MCUK) converter supplied to brushless DC engine drive utilizing an Artificial Neural Network controller. Presently, alteration for

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traditional CUK converter can be obtained through adding a voltage multiplier circuit, to decrease converter losses for wide variation of speed to accomplish most extreme Power Factor and to limit the Total Harmonic Distortion (THD). The designed bridgeless PFRC based converter was investigated hypothetically to obtain the circumstances, for example, Power factor (PF) and Total Harmonic Distortion (THD) are assessed and contrasted with traditional Diode Bridge Rectifier hinged CUK converter supplying to brushless DC motor drive and bridgeless altered CUK using PI controller driven brushless DC motor. Here, simulation results uncover that the ANN controllers are viable and productive contrasted with PI controller, as the steady state error when ANN control used is less and the stabilization of the system is better while using it. Additionally in ANN system, the time to perform calculation is less as there are no numerical models. The performance of the designed framework is simulated in MATLAB/Simulink environment.

Keyword: Artificial Neural Network (ANN), Brushless DC motor, modified CUK- converter (M-CUK), Power factor rectification Converter (PFRC).

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Authors: **Satyanarayana R, Shankaraiah**

Paper Title: **Isolation Enhancement of 3GHz Probe Fed Rectangle Microstrip Patch Antenna by Second Resonance Suppression Technique for Wireless Applications**

Abstract:Microstrip patch antenna is very popular and extensively used in GHz wireless communications. The demand of increased wireless communication applications, needs increase in bandwidth, gain, efficiency and isolation of microostrip patch antenna. Microstrip patch antenna is a low profile antenna but has narrow bandwidth, low gain, low efficiency and isolation. In this paper a microstrip patch antenna is designed with 1.6mm RT Duroid substrate material. The bandwidth, gain and isolation were found to be 60MHz, 7.5dB and -40dB with dual resonance. The bandwidth and isolation enhancement is achieved withsecond resonance suppression technique. The second resonance suppressed by using two slots. Simulations were conducted with different lengths of slots and at different positions and compared. A bandwidth of 270MHz, gain of 7.9dB and an isolation of -46dB are obtained. Bandwidth increase of 450% and 115% isolation increase are achieved.

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Keyword: HFSS, Isolation, Microstrip Antenna, Wireless Communication

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	Authors:	**T.M. Tajuddin Yezdani , Shantharaja M**
	Paper Title:	**Impact of RCS- Cross Root Process and die design in commercial Brass Alloy Sheets**

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Abstract:Commercial Brass Alloy Sheet are subjected to intense plastic deformation using RCS method to improvise its metallurgical / Mechanical properties. The impact of Repeated Corrugation and Straightening Process for a number of cycles using two different type of dies on hardness, homogeneity and grain structure in commercial Brass Alloy Sheet at room temperature is evaluated experimentally. Two types of V-grove corrugation dies (flat groove corrugated, and semi-circular grooved corrugated) and flattening dies were used in this work with a pressing velocity of 1mm/min. The modus operandi involves repeated and controlled corrugation followed by straightening for a number of cycles. In the process the brass sheets are made to undergo intense plastic deformation by repeated shearing using first flat groove corrugated dies followed by flattening of sheets using flat dies and in the second setup, semi-circular groove corrugated dies are used, followed by flattening of sheets using flat dies. In the samples processed using flat groove corrugated dies, the BHN increases from 95.47 to 234.34 upto 4th cycles and then decreased to 218.63 in the 5th cycle experimentally. In the samples processed using semi-circular groove corrugated dies, the BHN increases from 95.47 to 202.02 upto 4th cycle and then decreases to 194 for 5th cycle experimentally. The results of simulation studies done using the simulation software (AFDEX) are in consonance with the experimental results. Simulation analysis done to study the behavior of commercial Brass Alloy Sheet subjected to plastic deformation using Semi-circular groove corrugated dies shows that the effective strain has increased from 0.6442 for the 1st cycle to 2.94 at the end of 5th cycle, and for the flat grooved corrugated dies the effective strain increases from 1.17 for the 1st cycle to 6.21 at the end of 5th cycle. This RCS process can be used for bulk production of sheets with high hardness, fine grain structure and smoother surface.

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Keyword: About four key words or phrases in alphabetical order, separated by commas.

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Authors: **Kunal Meher, Divya Midhunchakkaravarthy**

Paper Title: **Hybrid Solution (ECDHE + NewHope) for PQ Transition**

Abstract:It is assumed that certain mathematical or computational problems which are used in traditional cryptographic schemes are hard to solve for an attacker using today's computers. But, lots of companies are trying to build quantum computer and in coming few years commercial quantum computer will be in reality. Security of traditional asymmetric cryptographic algorithms can be broken using quantum computers. So, researchers all over the world are planning for transition to post-quantum cryptography. One solution is to build hybrid solution combining both traditional and post-quantum primitives which will provide traditional cryptographic guarantees as well as quantum resistance [1].The best and feasible hybrid solution can be used in the protocols like SSL/TLS, SSH and PGP.

Keyword:quantum, hybrid, cryptography, PQC

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Authors: **Sugandha Nandedkar, Jayantrao Patil, Sunil Kawale**

Paper Title: **Gradual Weight Updating for Sentiment Mining**

Abstract:Nowadays, many people prefer the use of social media for communicating and exchanging opinions with each other over face to face communication. This has lead to a generation of a tremendous amount of textual opinioned data. Understanding this opinioned data is useful from all perspectives. But the major challenge exists here is how to extract the exact sentiment hidden behind this huge data. To solve this problem, keyword spotting or dictionary-based approaches are followed. In this paper, we present a Gradual Weight Updating for sentiment mining. It not only considers the polarity of each word similar to the unigram methodology but, it also focuses on the entire cluster of words that contains the unigram. The different steps it follows for sentiment extraction of the word are polarity fetching, cluster marking, weight tagging, valence shifter, adversative conjunction handling, and final score generation. The paper contributions in the area of domain independent opinioned word extraction and accurate polarity mining with the help of context marking approach. We used the various opinionated datasets to compare and illustrate the performance of our proposed system.

Keyword: Natural Language Processing, Opinion Mining, Sentiment Analysis, Text Mining

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Authors: **K. Vishal Reddy, Jayantrao B. Patil, Ratnadeep R. Deshmukh**

Paper Title: **SecHDFS: Efficient and Secure Data Storage Model over HDFS using RC6**

Abstract:In today's world the data used by various institutions and organizations is increasing and process petabytes of data per hour. Hence big data storage platform called Apache Hadoop is designed to process large amount of data, but it does not guarantee the security of user stored files in Hadoop. In this paper, a secure HDFS

is designed for an efficient and secure data storage model. We encrypt and decrypt client data using RC6 symmetric block cipher. In this research work, Hadoop distributed file system (HDFS) is customized using RC6 which provides transparent end-to-end encryption on user's data for read as well as write. Our proposed SecHDFS will mitigate several security attacks such as replay attacks, data node impersonating attacks, and brute-force attacks. The proposed model imparts better results than the inbuilt AES symmetric algorithm.

Keyword: SecHDFS, AES, RC6, and Hadoop Security

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Authors:	**Vinod S. Patil, Gopalkrishna D. Kamalapur**
Paper Title:	**Renewable Energy based Green Power Generation for Rural Electrification**

Abstract:A major challenge for developing countries is access to electricity in rural area for accelerating its growth. There are significant impediment from the utilities to extend either improved service to the rural user or provide extended hours of supply through conventional grid supply. In developing countries, the most significant challenges are technologies used to upgrade and methods for electrification, which results in poor reliability of supply and high distribution losses, leading to hindering both economic and social development, so energy planners have suggested a hybrid energy system for the electrification of rural areas. This study investigates green energy based integrated generation for rural loads. This proposed system can orchestrate with the grid as well as with the renewable energy-based generator. The wind energy has a natural variance, to satisfy the energy demand during the nocturnal and overcast period a complementary renewable energy generator is critical, or an energy storage mechanism is needed to meet the energy demand. This type of pooled exploitation and interconnection is used to improve the reliability and resilience of the grids. The integration of distributed and clean energy resource like wind generation will reduce fossil fuel emissions and provides electricity in areas which are limitedly served by unified electrical infrastructure. Hence, it is expected to develop/modify technologies available for harnessing renewable energy sources. A MATLAB/Simulink is used to build a model for a grid-wind based integrated generation. Results obtained from MATLAB/Simulink are a close match with a practical system.

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Keyword: Renewable integration, Distributed energy, Synchronization, Grid.

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Authors:	**Ridhi Jindal, S. K. Mittal**
Paper Title:	**Speculation of Software Reusability Estimation using CK (Chidamber and Kemerer) Metrics**

Abstract:In today's software community the most interesting topic is software reusability because of its immense benefits that comprise of decreased product schedule, cost and increase in product quality. Most of the time, software is not built from scratch since it is costly and time-consuming process. Therefore, existing software documents (source code, documents, design, etc.) are used to develop the new application according to user requirements. But still the software reusability is not being followed as a standard approach in the process of software development. Till now initiating the software reuse process there is a need to analyze and properly understand the user requirements in spite of considerable upfront investments for software reusability. We have studied various aspects of software reusability along with software metrics and are being presented in this article. Efficient software designs can be enabled by assessing the software reusability extent. The aging resilient software design could be of paramount significance to enable faultiness software system. The estimation of software reusability plays an important part in software's cost reduction and quality improvement, in an object-oriented programming. In this paper the idea about the designing the CK metrics suite along with metrics' evaluation is presented that can help for object-oriented based systems in reflecting the accurate results.

Keyword: Software reusability, web of services, Software development, CK metrics

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	Authors:	**Ayush Mittal, Ravindra Kumar Gupta**
	Paper Title:	**Encryption and Decryption of a Message Involving Genetic Algorithm**

Abstract:The aim of this paper is to establish an algorithm for encryption and decryption of a message based on symmetric key cryptosystem involving Genetic Algorithm. In the proposed algorithm we use substitution algorithm, genetic crossover and mutation technique.

Keyword: Encryption, Decryption, Genetic Algorithm, Crossover, Mutation and substitution.

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677.	**Authors:**	**V. Sellam, Medha Shree, Shreya Chopdar, Shambhavi**

	Paper Title:	**Gate Pass System**	
	Abstract:The objective of this work is to make the hectic process of getting a gate pass easier and less stressful. This also saves time and is paperless unlike the traditional method. It uses the modern technology and is handled online. The process involves registration, verification and granting permission to the students on the same platform. Thus saves the legwork. It's a faster process. And various measures are taken to make it foolproof. This project helps the hostellers in SRMIST to apply for gate-pass. The goal is to create an easier platform to manage the out pass request rather a traditional method of writing in papers. The goal of this project is to create a user friendly application which will be time saving for both student as well as the authorization. **Keyword:**Gate-pass, paperless, permission , online **References:** 1. Venkat Raman, Shrikant Gautam, Arunkumar Rajbhar, Swapnil Polekar, Sudhir Shukla (Oct. 2018) University Campus Online Automation Using Cloud computing. 2. Prof. Archana S. Banait, Ms. Neha , Ms. Pooja Ganate, Ms.Shubhangi Dagale. (February 2019), Gate pass Management System. 3. Dr. A.V. Senthil Kumar, D. Vignesh Kumar (March, 2017), Face matching recognition system. 4. Norizan Anwar, Mohamad Noorman Masrek, Yanty Rahayu Rambli 2012, Gate Pass Management System. 5. S.Venkatesa Perumal , B. I.Juvanna , and Sanju Rajan, (March, 2018), Online Gate Pass Application form for Hostel Students. 6. Web- Based Hostel Management System for Improving Sustainable Performance of Educational Institutions. U.Elakkiya, P.Nirmala Priyadarshini, March 2014. 7. Harish Raparitwar, Pushpanjali Shivratri, Omkar Sonakul, Prof. Ashwini Bhugul, 2017, Visitor Gate Management System. 8. Prof. Mosam Sangole, Sagar Bharote, Gaurao Singh, Kranti Deshmukh, Vol-03, Issue 02, Apr 2017, RFID Based Campus Management System: Access Control System. 9. K.Mehaboob Subhani , Bhupendra Singh,Manoj Kumar D S, Volume 116,No. 21, Solving hostel student issues using mobile application. 10. S. Swarnalatha, R. S. Shrikanth, I. Kesavarthini, S. Poornima,N. Sripriya, (2018), Mobile application for outpass generation.	**3924-3927**
678.	**Authors:**	**S. Arun Kumar, Agniva Chakraborty**	
	Paper Title:	**Medical Applications using Blockchain and Machine Learning**	
	Abstract:Blockchain was particularly used in Cryptocurrency technologies. Prior to 20th century there was no other technologies for determining the health of a person naturally. At the dawn of the 21st Century machine learning played a vital role in determining the health of a person using various algorithms and natural language processing techniques. Now for every machine learning technique to work for it needs data. Data is very important as far as providing information is concerned. Data sharing plays a vital role in improving accuracy of techniques involved. Along the blockchain technology plays a vital role in this aspect. Thus, the merging of these two techniques involve provides highly accurate results in terms of machine learning with privacy and reliability of Blockchain technology. This technique uses natural language processing techniques which focuses basically mainly on healthcare techniques such as cancer detection, prediction of machines used in healthcare etc. Prior to healthcare which is used in blockchain it was used in cryptographic techniques only. Also, this technology can be used to provide medical suggestions to the doctors based on the condition of the patient. The accuracy of this method can be increased more using providing as much data as we can. This combination of Blockchain and machine learning algorithms can be used widely in healthcare, where the data is highly secured and there is no fear of data loss. This paper involves how combining these two technologies can be helpful in healthcare. **Keyword:**blockchain, natural language processing, algorithms, cryptocurrency, data, accuracy, prediction **References:** 1. Matthias Mettler, “Blockchain Technology in Healthcare”, 2016 IEEE 18th International Conference on e-Health Networking, Applications and Services (Healthcom) 2. “Electronic health records (ehr) market by product, type, application and end user - global opportunity analysis and industry forecast, 2017-2023,” Research And Markets, January 2018. 3. Cyran, Marek A. "Blockchain as a Foundation for Sharing Healthcare Data." Blockchain in Healthcare Today (2018). 4. J. Katz, A. J. Menezes, P. C. Van Oorschot, and S. A. Vanstone, Handbook of applied cryptography. CRC press, 1996. 5. Yonghui Wu, et. al.,“Google’s Neural Machine Translation System Bridging the Gap between Human and Machine Translation. 6. 6. MEDREC Online :- https://medrec.media.mit.edu/	**3928-3932**
679.	**Authors:**	**Sandeepa K S, Basavaraj N Jagadale, J S Bhat**	
	Paper Title:	**Image Enhancement using Recursive Standard Intensity Deviation Based Clipped Sub Image Histogram Equalization**	
	Abstract:The low exposure image enhancement has become indispensable inimage processing for better visibility. The most challenging in image enhancement is especially to curtail over-enhancement problems. This paper presents a method, performs the separation of the histogram based on respective standard intensity deviation value and then recursively equalizes all sub histograms independently. The over-enhancement problem is minimized by this method. It applies more in an underwater image, because of its low light conditions. The experiment results are analyzed in terms of entropy and output image inspection. The proposed method results show significant improvement over earlier recursive based histogram equalization algorithms. **Keyword:**Recursive standard intensity deviation basedhistogram equalization, clipped histogram, entropy. **References:**	**3933-3937**

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Authors: **Sy.Yuliani, Shahrin Sahib, Mohd Faizal Bin Abdollah, Fariska Z. Ruskanda**

Paper Title: **Hoax News Classification using Machine Learning Algorithms**

Abstract:Hoax news on social media has had a dramatic effect on our society in recent years. The impact of hoax news felt by many people, anxiety, financial loss, and loss of the right name. Therefore we need a detection system that can help reduce hoax news on social media. Hoax news classification is one of the stages in the construction of a hoax news detection system, and this unsupervised learning algorithm becomes a method for creating hoax news datasets, machine learning tools for data processing, and text processing for detecting data. The next will produce a classification of a hoax or not a Hoax based on the text inputted. Hoax news classification in this study uses five algorithms, namely Support Vector Machine, Naïve Bayes, Decision Tree, Logistic Regression, Stochastic Gradient Descent, and Neural Network (MLP). These five algorithms to produce the best algorithm that can use to detect hoax news, with the highest parameters, accuracy, F-measure, Precision, and recall. From the results of testing conducted on five classification algorithms produced shows that the NN-MPL algorithm has an average of 93% for the value of accuracy, F-Measure, and Precision, the highest compared to five other algorithms, but for the highest Recall value generated from the algorithm SVM which is 94%. the results of this experiment show that different effects for different classifiers, and that means that the more hoax data used as training data, the more accurate the system calculates accuracy in more detail.

Keyword: Hoax News, Text classification, Machine Learning, Support Vector Machine, Naïve Bayes. Decision Tree, Logistic Regression, Stochastic Gradient Descent, Neural Network –MLP.

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Authors: **M iiLavanya, iiK iiMunivara iiPrasad**

Paper Title: **DCNN: iiThe iiDensity, iiCluster iiCenters iiand iiNearest iiNeighbors iiusing iiIntrusion iiDetection iiAlgorithm ii**

Abstract:iiMost iicurrent iiintrusion iidetection iisystem iiemploy iisignature iibased iimethods iior iidata iimining iibased iimethods iiwhich iirely iion iilabeled iitraining iidat. iiThis iitraining iidata iiis iitypically iiexpensive iito iiproduce. iiIntrusion iidetection iiaims iito iidetect iiintrusion iibehavior iiand iiserves iias iia iicomplement iito iifirewalls. iiIt iican iidetect iiattack iitypes iiof iimalicious iinetwork iicommunications iiand iicomputer iiusage iithat iicannot iibe iidetected iiby iiidiomatic iifirewalls. iiMany iiintrusion iidetection iimethods iiare iiprocessed iithrough iimachine iilearn- iiing. iiPrevious iiliterature iihas iishown iithat iithe iiperformance iiof iian iiintrusion iidetection iimethod iibased iion iihybrid iilearning iior iiintegration iiapproach iiis iisuperior iito iithat iiof iisingle iilearning iitechnology. iiHowever, iialmost iino iistudies iifocus iion iihow iiadditional iirepresentative iiand iiconcise iifeatures iican iibe iiextracted iito iiprocess iieffective iiintrusion iidetection iiamong iimassive iiand iicomplicated iidata. iiIn iithis iipaper, iia iinew iihybrid iilearning iimethod iiis iiproposed iion iithe iibasis iiof iifeatures iisuch iias iidensity, iicluster iicenters, iiand iinearest iineighbors ii(DCNN). iiIn iithis iialgorithm, iidata iiis iirepresented iiby iithe iilocal iidensity iiof iieach iisample iipoint iiand iithe iisum iiof iidistances iifrom iieach iisample iipoint iito iicluster iicenters iiand iito iiits iinearest iineighbor. iik-NN iiclassifier iiis iiadopted iito iiclassify iithe iinew iifeature iivectors. iiOur iiexperiment iishows iithat iiDCNN, iiwhich iicombines iiK-means, iiclustering-based iidensity, iiand iik-NN iiclassifier, iiis iieffective iiin iiintrusion iidetection.

Keyword:iiintrusion iidetection; iiDCNN; iidensity; iicluster iicenter; iinearest iineighbor, iihybrid iilearning iimethod.

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Authors: **Rajeev Dandotia, Ranjan Mishra, S M. Bhaskar, Raj Gaurav Mishra, Piyush Kuchhal**

Paper Title: **SSR Based Slotted Patch Antenna with Integrated Wave Guiding structure for 5G Application**

Abstract:An electrical small microstrip patch antenna with guided SIW slotted configuration is investigated in this paper. In the proposed design the primary antenna patch includes a slotted SRR configuration which later converted into concentric SRR slotted configuration. Here the antenna patch with concentric slot contributes dual-band resonance. The impedance matching at both the resonance is improved with guided SIW slotted structure. The proposed antenna patch incorporates a slot inside the concentric slot to correct the pattern asymmetric. The proposed antenna shows resonance at 28 GHz and 37.5GHz for mmWave 5G applications. The proposed antenna is implemented with a physical dimensions of 4.7mm ×2.7mm × 0.8mm.

Keyword: Microstrip antenna, 5G application, Slotted Patch, Frequency, Impedance.

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Authors: **Debajit Misra**

Paper Title: **Design of a Stand-Alone Rooftop PV System for Electrification of an Academic Building**

Abstract:Solar energy is one of the most promising options of renewable energy in the context of energy sustainability. Nowadays, as the utilization of solar energy has been continuously expanded in wide scale, researches related to the topic have been carried out all over the world. The prime focus of this study is to provide sustainable energy generation for an academic building located in a rural place, where power outage is a frequent issue. In this study, individual power system components have been suitably designed which could electrify the building for yearlong use. A rooftop photovoltaic (PV) system with three days battery backup has been considered for the present case. Designing of the PV system is based on the selection of individual electrical appliances and its operating time in a day. For this purpose, a survey has been carried out over a year in order to identify the day in which maximum power was utilized. The study revealed that the total estimated capacity of the stand-alone PV system should be 138.6 KWp in which 446 PV modules bearing 300 Wp each are connected together in series parallel combination. Total 656 numbers of batteries (12V- 200Ah each) are required for power backup which

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store the excess PV generation. Suitable size also been considered for inverters and charger controller which are connected in parallel and series respectively. The area required to install PV modules on the rooftop without shadow effect has been properly assessed. Besides being PV system design, brief cost analysis has been carried out in terms of simple payback period, unit cost of power generation and cash flow in terms of present value.

Keyword: Stand-Alone, Solar PV, Battery, Inverter, Design, Cost .

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Authors:	**Vedanta Kapoor, Sanya Taneja, Kakelli Anil Kumar**	
Paper Title:	**Digital Forensics Tools**	

Abstract:In this paper we will we reviewing the basic fundamentals of digital forensics and all go through the various types of forensics investigation teams available to us. We will also discuss about the different types of digital crimes that take place and the various tools present in order to counteract the crimes that are being committed. There will also be a comparative review among all the tools present based on various factors present giving the reader an abstract view about which tool to use for the best type of results.

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Keyword: Cyber-crime, Digital, Forensics, Tools

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685.	**Authors:**	**Sarakutty T. K., Ravikumar K., Hanumanthappa M.**	3970-3974
	Paper Title:	**Prediction and Analysis of Water Resources using Machine Learning Algorithm**	

Abstract:Water demand prediction plays an important role in urban and environmental planning, ecological development, decision-making processes and optimum utilization of water resources. A precise water demand prediction has a key job in the forecasting, design, process, and organisation of water resources frameworks. The under stress natural resources and the ever increasing population size makes it dominant to accurately and efficiently forecast water demand in the urban area which is possible by applying data mining techniques on the huge volumes of available water data. This paper focuses on building precise predictive models for water demand prediction using support vector machine which takes care of the nonlinear changeability of water demand at diverse levels for optimal operations.

Keyword: Data Mining, Machine Learning, Support Vector Machine.

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686.	**Authors:**	**Munsifa Firdaus Khan, Indrani Das**	3975-3980
	Paper Title:	**Effect of Different Propagation Models in Routing Protocols**	

Abstract:Mobile Ad hoc Networks (MANET) are wireless networks where communication of nodes takes placevia radio waves. Due to dynamic topology and mobility of nodes frequent path failure takes place which in return affects the Quality of Service (QoS) in MANET. This paper mainly focuses on the experimental analysis on different propagation models namely Two-ray ground reflection, Free Space and Shadowing models on AODV and DSDV. We have done rigorous experiments to verify the effects of various propagation models and try to find its environment suitability. The QoS parameters we have used for the observation of the performance are throughput, delay and Packet-Delivery-Ratio (PDR). Simulation is done using NS-2.Free Space model gives better performance in both the protocols in contrast to other models. This paper will be helpful for researchers, students who are newly involved in research for better understanding and utilization of propagation models in corresponding environment.

Keyword:MANET, AODV, DSDV, Propagation model.

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Authors: **Nagaraj S., Seshachalam D.**

Paper Title: **Variable Frequency Signal Carrying Nonlinear Transmission Line - Modeling using Machine Learning**

Abstract:in modeling of complex systems, manual creation and maintenance of the appropriate behavior is found to be the key problem. Behavior modeling using machine learning has found successful in modeling and simulation. This paper presents artificial neural network (ANN) modeling of transmission line carrying frequency varying signal using machine learning. This work uses proper orthogonal decomposition (POD) based reduced order modeling. In this proposed work, snapshot sets of complex mathematical model of nonlinear transmission line and also linear model are obtained at different time interval. These snapshot sets are arranged in matrix form separately for nonlinear and linear models. POD method is applied on both the matrices separately. This reduces the order of the matrix which is used as input and output data set for neural network training through machine learning technique. Trained neural network model has been verified using different untrained data set. The proposed algorithm determines the dimension of the interpolation space prompting a considerable decrease in the computational expense. The proposed algorithm doesn't force any imperatives on the topology of the appropriate circuit or kind of the nonlinear segments and hence relevant to general nonlinear systems.

Keyword: Transmission line, proper orthogonal decomposition, model order reduction, artificial neural network, machine learning.

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Authors: **Abdul Razak B. H., D. L. Venkatesh Babu**

Paper Title: **Fresh, Strength and Durability Characteristics of Binary and Ternary Blended Self Compacting Concrete**

Abstract:Paper Mineral admixtures being the economical alternatives to Ordinary Portland Cement (OPC) for various normal and special concretes induce desirable properties to concrete such as higher flow, low heat of hydration, higher strength gain and enhanced durability. Ground granulated blast furnace slag(GGBFS) being one of the largely used mineral admixture alongside Fly Ash as supplementary cementitious material in concrete contributes to enhanced durability properties and low heat of hydration. Various replacement percentages of GGBS at 30%, 40%, 50% and 60% are used in binary blended Self compacting concrete(SCC) in the present study. At 40% replacement level, SCC exhibited improved workability, strength and durability properties. Alccofine(Ultrafine GGBS) used in ternary blended SCC enhanced early strength gain without affecting workability of SCC to a significant extent.

Keyword: Ground granulated blast furnace slag(GGBFS), Alccofine, Ordinary Portland cement(OPC).

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Authors: **Jagdish Chandra Patni, Shubham Billus, Shubhita Garg, Shivam Billus, Romika**

Paper Title: **Feature-Based Opinion Mining and Managed Machine Learning with Sentiment Classification Models**

Abstract:Sentiment Analysis is individuals' opinions and feedbacks study towards a substance, which can be

	items, services, movies, people or events. The opinions are mostly expressed as remarks or reviews. With the social network, gatherings and websites, these reviews rose as a significant factor for the client's decision to buy anything or not. These days, a vast scalable computing environment provides us with very sophisticated way of carrying out various data-intensive natural language processing (NLP) and machine-learning tasks to examine these reviews. One such example is text classification, a compelling method for predicting the clients' sentiment. In this paper, we attempt to center our work of sentiment analysis on movie review database. We look at the sentiment expression to order the extremity of the movie reviews on a size of 0(highly disliked) to 4(highly preferred) and perform feature extraction and ranking and utilize these features to prepare our multilabel classifier to group the movie review into its right rating. This paper incorporates sentiment analysis utilizing feature-based opinion mining and managed machine learning. The principle center is to decide the extremity of reviews utilizing nouns, verbs, and adjectives as opinion words. In addition, a comparative study on different classification approaches has been performed to determine the most appropriate classifier to suit our concern problem space. In our study, we utilized six distinctive machine learning algorithms – Naïve Bayes, Logistic Regression, SVM (Support Vector Machine), RF (Random Forest) KNN (K nearest neighbors) and SoftMax Regression. **Keyword:**Sentiment Analysis, Opinion Mining, Movie Review, Machine learning, Classification Algorithms **References:** 1. C. Catal, M. Nangir, "A Sentiment Classification Model Based On Multiple Classifiers", Applied Soft Computing Elsevier, Vol.50, pp 135–141, 2017. 2. R. Piryani, V. Gupta, V. K. Singh and U. 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Parul Mittal, Piyush Mishra, Vivek Patel , Jagdish Chandra Patni, "Comparison of Runtime Performance Optimization using Template-Metaprogramming" presented and published in International Conference on Next Generation Computing Technologies (NGCT), CCIS, volume 827 ,pp. 139-147, 30-31 October 2017, DOI https://doi.org/10.1007/978-981-10-8657-1_11. 16. Piyush Mishra, Vivek Patel, Parul Mittal, Jagdish Chandra Patni "Algorithm Analysis Tool Based on Execution Time Input Instance-based Runtime Performance Benchmarking" published in International journal of computer applications, pp: 27-30, 2018, ISSN: 0975 – 8887. 17. Jagdish Chandra Patni, Ravi Tomar, Ankur Dumka, Hitesh Kumar Sharma, "A Model for Embedded Machine learning and Genetics in IoT" published in International Journal of Current Engineering and Scientific Research (IJCESR), 2017, Vol 4, Issue 10, pp 12-20, ISSN- 2394-0697.	**3998**
690.	**Authors:**	**Sapna S., Sandhya S.**
	Paper Title:	**Indian Premier League Dataset Analytics using Hadoop-Hive**
	Abstract:Big Data is a term used to represent huge volume of both unstructured and structured data which cannot be processed by the traditional data processing techniques. This data is too huge, grows exponentially and doesn't fit into the structure of the traditional database systems. Analyzing Big Data is a very challenging task since it involves the processing of huge amount of data. As the industry or its business grows, the data related to the industries also tend to grow on a larger scale. Prominent data analysis tools are required to analyze the data in order to gain value out of it. Hadoop is a sought-after open source framework that uses MapReduce techniques to store and process huge datasets. However, the programs written using MapReduce techniques are not flexible and also require maintenance. This problem is overcome by making use of HiveQL. In order to execute queries in HiveQL, the platform required is Hive. It is an open-source data warehousing set-up built on Hadoop. HiveQL queries are compiled into MapReduce jobs that are executed utilizing Hadoop. In this paper we have analyzed the Indian Premier League dataset using HiveQL and compared its execution time with that of traditional SQL queries. It was found that the HiveQL provided better performance with larger dataset while SQL performed better with smaller datasets.	**3999-4004**

Keyword: Big Data, Hadoop, Hive, IPL

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691.

Authors: **M. Renuka Devi, J. Maria Shyla**

Paper Title: **Pioneering Methods for Enhancing PPI and Phenotype Networks for Candidate Disease Prioritization**

Abstract: The physical contacts of high-specificity between two or more protein molecules constitute Protein-Protein Interactions (PPIs). PPI networks are modeled through graphs where node denotes proteins and edges denote interaction between proteins. The PPI network plays an important role to identify the interesting disease gene candidates. But, the PPI network usually contains false interactions. Many techniques have been proposed to reconstruct PPI network to remove false interactions and improve ranking of candidate disease. Random Walk with Restart on Diffusion profile (RWRDP) and Random Walk on a Reliable Heterogeneous Network (RWRHN) was two among them. In these methods, Gene topological similarity was incorporated with original PPI network to reconstruct new PPI network. Phenotype network was constructed by calculating similarity between gene phenotypes. The reconstructed network and phenotype networks were combined to rank candidate disease genes. However, the PPI reconstruction was fully related with the quality of protein interaction data. In order to enhance the reconstruction of PPI, a Piecewise Linear Regression (PLR) based protein sequence similarity measure and Bat Algorithm based gene expression similarity were proposed with RHN. In this paper, additional measure called Interaction Level Sub cellular Localization Score (ILSLS) is proposed to further reduce the false interaction in the reconstruction of PPI network. ILSLS is the combination of Normalized Sub cellular Localization score (NSL) and Protein Multiple Location Prediction score (PMLP). The proposed work is named as Random Walker on Optimized Trustworthy Heterogeneous Sub Cellular localization aware Network (RW-OTHSN). In order to enhance the ranking of RW-OTHSN, phenotype structure is considered while construction phenotype network to rank the candidate disease genes. The phenotype structure is characterized based on h*-sequence model which identify highly discriminative signatures with only a small number of genes. This proposed work is named as Random Walker on Optimized Trustworthy Heterogeneous Sub Cellular localization and Phenotype structure aware Network (RW-OTHSPN). The efficiency of the proposed methods are evaluated on PPI network database in terms of Average degree, Relative Frequency for PPI reconstruction, Number of successful predictions, precision and recall for candidate disease gene ranking.

4005-4012

Keyword: Candidate disease gene prediction, candidate disease gene prioritization, phenotype structure, random walk, sub-cellular information.

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Authors:	**P. HarshaLatha, R. Mohanasundaram**
Paper Title:	**A New Hybrid Strategy for Malware Detection Classification with Multiple Feature Selection Methods and Ensemble Learning Methods**

Abstract:A dramatic increase in malware in our day-to-day life causes a noteworthy problem in cyber security. The traditional approaches and signature-based models are not sufficient to defense with the new malware. To achieve zero-day attacks of malware, these approaches are not much competent to face new malware. To enhance the compete for the mechanism of classifying new malware the machine learning approaches are highly effective. To classify new malware with the high dimensionality of data leads to reduce the quality of output and low-performance results. In this paper, we propose a new hybrid strategy that combines the power of feature selection methods along with ensemble learning methods to improve accuracy for high dimensionality of data. This hybrid approach having three stages, preprocessing, feature selection and classification. Three different types of feature selection methods: ExtraTreesClassifier, Percentile and KBest feature selection methods are used to select the best features (dimensionality reduction) and four ensemble classifiers: AdaBoost, Gradient Boosting, Random Forest and Bagging are used for classification. The accuracy of ensemble classifiers are increased with this hybrid model and produces better results of classification with 91.50% accuracy. For dealing with the high dimensionality of data this hybrid approach is very effective and gives better results.

Keyword: Hybrid Model, Dimensionality Reduction, Machine Learning, Feature Selection, Classification, Malware detection, Ensemble Learning.

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Authors:	**L. A. Komarova, V. G. Saiko, V. S. Nakonechnyi, S. V. Toliupa, R. V. Ziubina**
Paper Title:	**Quality Assurance of Data Transmission in Queuing Networks**

Abstract:With the development of high-speed communication networks, the so-called property of self-similarity of flows has an increasing impact on the quality of service. From a practical point of view, this can be explained by the high variability of traffic intensity and, as a consequence, the high receipt of packets to the network node at a high data rate, which leads, due to the limitation of the buffer, to packet losses. For a long time, it was believed that the traffic of the local network is described by the classical Poisson distribution. Telephone networks were originally built on the principle of channel switching, and computer networks are usually based on the principle of packet switching, but the calculation methods have remained virtually the same. Packets at high speed of their movement on a network arrive on a node not separately, and the whole pack. Traffic in such networks has ripples, which increases the likelihood of congestion in the network nodes, which lead to buffer overflows and cause losses and / or delays. Pulsations lead to differences in the speed of information flows, in which the ratio of the maximum value to the minimum speed is tens of times. At the same time, it turned out that in multiservice networks, the number of events in a given time interval depends on previous, very distant events. This means that at large scales of a multiservice network, traffic has the property of self-similarity, i.e. it looks qualitatively the same at any sufficiently large scales of the time axis.

Keyword: Informatization, traffic parameters, communication networks, packet-switched networks, third-video in real time.

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Authors:	**F.F. Zaharuddin, Y.H. Md Thayoob, R.Verayiah, Y.Z. Yang Ghazali**
Paper Title:	**Life Cycle Cost Estimation of Distribution Transformer Failure from Life Data Exploration**

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Abstract:Transformers are major equipment in a power system. Their reliability does not only affect the electric energy availability within a supplied area, but also the economical operation of a utility. Many power utilities in the world including Malaysia have distribution transformers that have been in operations for over 30 years. Aged distribution transformer will have higher risk of unexpected failure which will increase the operational cost. Nevertheless, the occurrence of transformer failure can be predicted based on historical events. In this research work, 2-Parameter Weibull distribution is used to model distribution transformer life data. Life data analysis is conducted based on the statistical model and failure prediction for distribution transformers is analysed. Since frequency of failures as a function of time from life data model varies with different manufacturers and affects the life cycle cost, both life data analysis and net present value concept could be combined to establish an enhanced methodology for life cycle cost estimation of distribution transformer failure. A case study was conducted on sample populations where distribution transformer with similar manufacturer and capacity were grouped together. Results for each transformer group were compared and examined. It was pointed by the results that appropriate modelling and analysis had allowed life cycle cost due to transformer failure to be estimated. Outcomes from the assessment would contribute to transformer life cycle management as one of the factors to consider in the decision making for asset replacement, maintenance and planning.

Keyword: Distribution Transformer; Life Data Analysis; Present Value; Life Cycle Cost; Life Expectancy of Distribution Transformer

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Authors: **Ali Qasim, Muhammad Saad Khan, Bhajan Lal, Mohd. Zamri Abdullah, Abdulhalim Shah Maulud**

Paper Title: **Simulation of Hydrate Phase Boundary for Natural Gas Mixture with High CO2Content through Simulation**

Abstract:Gas hydrates are solid crystalline structures in which water molecules trap small guest gas molecules and encage them through hydrogen bonding. Gas hydrates are known to be problematic in flow assurance applications as they can form plug inside the pipelines during oil and gas production, transportation and processing. In order to inhibit hydrate formation thermodynamically, various chemicals including some alcohols e.g. methanol (MeOH), mono- ethylene glycol (MEG) are used as thermodynamic hydrate inhibitors (THIs). In this paper, a simulation study is performed using PVTsim software wherein it predicts the hydrate formation for pure CO2 solution mixture and CO2-MEG solution mixture systems using different equation of states. These equations of states include Soave-Redlich-Kwong (SRK), SRK-Peneloux, Peng- Robinson (PR) and Peng-Robinson Peneloux. The simulation results obtained using these equation of states were validated with the experimental data and PR-PenelouxEoS was found to be in better agreement. The hydrate formation regions are determined in between the pressure range of 10 to 110 bara for natural gas mixture containing high percentage of CO2 in it. The inhibitors are used in 5, 10 and 20 wt% concentrations. The hydrate inhibition efficiency increased with the increase in concentration. Simulation results showed that methanol performed better in comparison to the other inhibitors at all concentrations.

Keyword:gas hydrates, phase boundary, PVTsim, equation of states.

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Authors: **C.Y. Hou, H. Alhussian, G. Hayder, S. Basri, S. Jadid**

Paper Title: **Smart Tyres: An Environmental-Friendly Solution to Road Accidents**

Abstract:The absence of the tyres monitoring system on vehicle has caused difficulty for driver to check the pressure and temperature of the tyres in real time. Besides that, due to the large geographical area of rural area where the distribution of petrol station with air pump might not be equally distributed, certain area is hard to access air pump. The abnormal pressure and increases in temperature on tyre lead to longer braking distance, tyre blowouts and related issues. The paper describes the deployment of IoT sensors for monitoring application in tyres and data is accessible on mobile app. This monitoring system consists of two sensors to measure the temperature and pressure of the tyre using ESP32 microcontroller board and uploaded into the cloud platform using Wi-Fi technology. While Blynk the mobile app is designed to collect the informative data from the cloud platform and the data is represented in graphical representation using open source Cloud platform. It is made available for real-time monitoring data. Apart from that, this system also incorporates alert system to provide a scalable monitoring system as well as alerting the user for any abnormal reading of the tyre.

Keyword: Internet of Things (IoT); Cloud Platform; Monitoring System

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Authors: **M. H. M. Teni, A. Naroh, K. A. A. Maliki, A. Tukiran**

Paper Title: **Design Development of a Coffee Maker using Design for Assembly Method**

Abstract:The purpose of this research is to evaluate the design of a coffee maker by using Boothroyd Dewhurst Method which this method is one of the Design for Assembly (DFA) methods. DFA method will help to simplify the assembly designs of the product that will leads to significant cost savings and less tine to produce a product. Main objective of DFA is to estimate the difficulty of assembly, eliminate unnecessary parts and assembly tooling and design products that are less costly to manufacture. The study will focus on analyzing the current design of coffee maker, reducing the number of parts, comparing the design efficiency and the cost between the current and improved design. The product is evaluated by using Manual Handling Table and Manual Insertion Table. The results of current design are used to make improvement to the coffee maker. Then, new design is made by eliminating or combining the old design so that total cost and time for assemble the coffe maker is reduced. Lastly, comparison is made between new and old design.

Keyword: Design for Assembly; Boothroyd Dewhurst Method; Coffee Maker; Design Efficiency.

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Authors: **Zaina Norhallis Zainol, Masine Md Tap, Haslinda Mohamed Kamar, Nazri Kamsah**

Paper Title: **The Effect of Air Gap and Moisture for the Skin Burn Injury of the Firefighter’s Personal Protective Clothing (PPC)**

Abstract:Fire fighters are commonly exposed to intense heat and fire. They suppressed fire by spraying water to avoid flame from spreading. They are enforced to use the Personal Protective Clothing (PPC) made of the flame-retardant material to protect themselves from the skin burn injury. Skin burn injury is the most common injury occurs among them. Yet, the exposure to extreme heat and moisture absorption into the clothing layers caused severe burn injury formation. The purpose of this study is to investigate the effect of air gap combined with the moisture absorption in the fabrics using Finite Element Method (FEM) and the Bio heat Equation. From the simulation experiment it is discovered the air gap is a good insulator capable of preventing skin burn with a skin temperature of 48°C. However, the presence of moisture strongly affects skin temperature. It had elevated to 59.64°C forming a second-degree type burn injury. The presence of moisture had weakened thermal protection of the flame-retardant material and the air gap against the heat flux. It is found the moist material properties had enhanced heat transfer from the heat flux to the skin surface resulting severe skin burn despite they were encapsulated with the Personal Protective Clothing (PPC).

Keyword: Bio Heat, Finite Element Method, Firefighter, Personal Protective Clothing

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Authors: **Irma Syarlina Che Ilias, Nur Aqilah Ahmad Zabidi**

Paper Title: **Performance of V2oIP Application via VANET**

Abstract:In Vehicular ad hoc network (VANET), vehicles are connected and communicated among themselves with different purpose, which move at their relative high speed. Much of the focus surrounding VANET has targeted the framework, model, environment or protocols. Few performance analysis studies have been carry out on V2OIP application at rural and urban area. The present paper set out to study the performance analysis of V2oIP applications between users in different distance and range. The performance are measures on jitter, delay and MOS of the applications; video call, video streaming and video conferencing. Several recommendations are

highlighted related to pursue in testing on other rural and urban areas, ISPs, number of users, network monitoring tools or video and voice activities.

Keyword: Performance Analysis; Voice Over IP; Video Streaming; Video Conferencing; Video Call.

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Authors: **M. Z. Zainal, N. Buyamin, S. H. S. M. Fadzulllah, R. Muhammad**

Paper Title: **Reliability Performance of Conductive Ink Subjected to Hygrothermal Aging**

Abstract:In the era of rapid technological development, the popularity in printed technologies and electronic packaging have resulted in a tremendous increase in the use of carbon-based conductive ink due to their advantageous features such as being environmental-friendly, low cost and lower assembly temperature. From the literature, it has been highlighted that the interconnect material are exposed to some degree of humidity and elevated temperature during the service life in an actual application. To-date, there is not yet a great length of literature reporting on the reliability performance of such materials when exposed to hygrothermal aging. Therefore, the objective of this research work is to investigate the reliability performance of the conductive ink

when subjected to hygrothermal aging. In this study, the samples were exposed to either the room temperature condition with temperature of 20°C and humidity of 60% RH and secondly when subjected to hygrothermal aging in an environmental chamber with humidity of 85% RH and a temperature of 85°C up to 24 hours. Following these, the samples were tested in terms of electrical conductivity using a four-point-probe (ASTM F390) and lap shear test (ASTM D1002) via tensile loading to evaluate the bonding strength at the interface between the adhesive and the substrate. Next, morphological study was done using Scanning Electron Microscopy (SEM). With the presence of water molecule in the conductive ink, the molecule of carbon black and epoxy become unstructured and traces of riverlines are evident. In addition, there is a dramatic decrease in the sheet resistance following hygrothermal aging relative to the samples conditioned at room temperature, possibly due to enhancement in the conductivity of the ink. In contrast, as for the mechanical shear stress, the lap shear stress following hygrothermal aging process becomes weaken compared to those conditioned at room temperature, which could be associated with weak surface energy, brittle and weak bonding between carbon black molecules and the aluminium substrate interface.

Keyword: Reliability; Performance; Conductive Ink; Hygrothermal Aging

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Authors: **Otman M. M. Elbasir, M. J. A. Mijarsh, Megat Azmi Megat Johari, Zainal Arifin Ahmad, Mohamed O. M. Mashri**

Paper Title: **Compressive Strength Development of Geopolymer Mortar by Utilization Slag and Fly Ash Mixtures**

Abstract:The paper displays the use of two base solid wastes materials to produce the alkaline-activated binder mortar to reduce the CO2 emission on climate change. The solid materials used in this research were slag and fly-ash to improve the compressive strength (CS) of alkaline activated mortar (AAM). The output AAM of 7 trial mixes were designed with different combinations of slag and fly ash. The mixes combinations were made in ratios of (100:0), (90:10), (80:20), (70:30), (50:50), (25:75), and (0:100), respectively. The combination of 10 M NaOH and Na2SiO3 was used as alkaline activator (AA). The wt. ratio of Na2SiO3 to NaOH = 2.5, and wt. ratio of AA to solid material = 0.52. The samples of AAM were cured at 75°C for 24 h. Among all the 7 trial mixtures, it was found that mixture with a combined ratio of slag:fly ash of 25:75 produce the maximum CS at 28 days of 88.87 MPa. Therefore, the alteration percentage of SiO2 and Al2O3 derived from fly ash in combination with CaO derived from slag contributed to significant CS improvement due to the formation of (N-A-S-H), (C-S-H) and (C-(A)-S-H) gels. The result observed of gel binder formation was confirmed by XRD and FESEM analyses.

Keyword: Fly Ash (FA); Slag (GGBFS); Alkaline Activated Mortar (AAM); Compressive Strength (CS)

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Authors: **Wira Z. A. Zakaria, Mohd Faizal Abdullah, Othman Mohd, Aswami Ariffin, Ng Thiam Tet**

Paper Title: **Crypto Ransomware Detection on Windows Operating System**

Abstract:Crypto-ransomware is a kind of malware threat, and it is one of approach frequently used by cybercriminals. It is due to the capability to hijack the victim's files and data by totally encrypting it using sophisticated cryptographic libraries such as OpenSSL and Microsoft Cryptography API. From the ransom note left by the attacker on the infected machine, the victim is told to fulfil the requested payment to get back the files. New variants of ransomware were released from time to time, thus making the task of detecting and analyzing it becomes challenging and resource consuming. Obfuscation and polymorphism employed in most modern malware made the task of identifying it even harder. This research investigates the domain of detecting ransomware on a Windows-based platform. We reviewed some of the related works done within this domain. In this research work, we proposed a framework for crypto-ransomware detection on the Windows-based platform by using information such as API calls and registry.

Keyword: Crypto ransomware, ransomware, ransomware classification, Windows ransomware detection

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Authors: **Tan Owee Kowang, Lim Kim Yew, Ong Choon Hee**

Paper Title: **Takt Time Analysis in Lean Six Sigma: From Conventional to Integration**

Abstract:Lean Six Sigma offers a comprehensive roadmap, tools and technique for continuous business process improvement. Principally, Lean Six Sigma integrates Lean’s principle of “value” and “speed” with Six Sigma’s “consistency” (i.e. variation reduction) concept into the DMAIC (Design, Measure, Analyze, Improve, Control) framework. The integration of Lean and Six Sigma advances the pace of business process improvement. Conceptually, Lean and Six Sigma must be applied side by side from both management (i.e. soft practices) and technical (i.e. hard practices) perspectives. However, empirical research found that prior studies on Lean Six Sigma tends to focus on the study of integration from the soft perspective, such as exploring and confirming the determinants for Lean Six Sigma success as well as the application of Lean Six Sigma processes within varies business environments. There is lack of study on the integration of Lean Six Sigma from hard perspective. Hence, the concept of how Lean and Six Sigma tools could be integrated remains ambiguous because there are no standard guideline that available. As such, based on a Lean Six Sigma project(of minimizing new students registration cycle time)that conducted in one of local private university as single case study, this paper explores how Lean and Six Sigma tools could be integrated based on Lean Six Sigma principle, with the focus on a Lean’s tool, namely “Takt Time Analysis”. Finding from the study suggested that Takt Time Analysis could be expanded from “Lean-based” tools to as “Lean Six Sigma tool” by including process variation and process capability as parameters for analysis. The finding as well as the LSS based Takt Time Analysis methodology developed in this study has descriptive value in terms of studying the integration of Lean and Six Sigma tools that govern continuous business process improvement via Lean Six Sigma.

Keyword: Lean Six Sigma, Takt Time, Hard Practices, Soft Practices

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Authors: **T. Sasilatha, K.R. Anupriya, C. Gnana Kousalya, S. Arun**

Paper Title: **Digital Image Falsification Detection System for Effective Data Communication**

Abstract:In this proposed system a digital imagefalsification can be identified using the combination of both adaptive over block based segmentation, feature keypointbased feature extraction algorithms(Scale Invariant Feature Transform (SIFT) and Speeded Up Robust Features (SURF)) and forgery region extraction algorithm. The proposed falsification detection algorithm comprises both block based falsification detection algorithm (adaptive over block based segmentation and block feature matching algorithm) and the keypoint based falsification detection algorithm(forgery region extraction algorithm). Adaptive over block based Segmentation algorithm adaptively segments the input digital image into separate(non overlapped) blocks in irregular manner. Scale Invariant Feature Transform (SIFT) algorithm and Speeded Up Robust Features (SURF) algorithms are used to draw out features from the segmentedblocks as a block features. Then the extracted features are matched with the feature points of other segmented block. If the feature key points are matched with any other feature point presents in the segmented blocks, then the matched feature points are marked as Labeled key Points (LKP), which can be doubted as a forged regions. Finally, the Forgery Region Extraction algorithm can be used to detect the forged region from the input digital image based on the extracted labeled feature points. The experimental outcomesdisplay that the novelfalsification detection system can accomplished the requirements compared with the existing digital imagefalsification detection methods.

Keyword: Falsification, Forgery, SIFT, SURF, Feature key points, Segmentation, Morphological

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Authors: **T. Sasilatha, Gnana Kousalya, Gowtham Venkatesan, Charan Ramesh**

Paper Title: **Non Contact Heart Rate Monitoring using Facial Video**

Abstract:Heart rate (HR) is a direct measure of heart's function. Conventional measurement based on contact-based measurement may cause discomfort to patients, especially in the case of long-term monitoring. This paper proposes a non-contact method of measuring heart rate using facial video of the patient. The variation of light intensity from the skin from each heart beat is used to estimate HR. A standard RGB camera is used to record the video. The Region of Interest (ROI) is obtained using face detection and tracking algorithms. A mean is taken across the frame yielding three values per frame. The Photo Plethysmo Graphy(PPG) signal is isolated using Independent Component Analysis (ICA). The signals are further filtered to reduce out of band noise and improve accuracy. The Fast Fourier Transform (FFT) is used to convert the signal to frequency domain and the peak is identified, whose frequency will correspond to the HR. This method of measuring HR has several advantages over conventional methods. HR measurement during exercise, prisons where contact-based methods cannot be employed, and long-term HR measurement in hospitals are some applications where the proposed method will be highly advantageous. The method also reduces the amount of hardware needed for HR measurement; HR can be measured even using smartphones.

Keyword: Independent Component Analysis (ICA), Photo Plethysmo Graphy (PPG), Fast Fourier Transform (FFT).

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Authors: **Suresh A, Rashmi M. R, Sibi Raj P. M**

Paper Title: **Common Mode Voltage Reduction in Three Phase Inverter using Pre-Calculated Harmonic Eliminated PWM Method**

Abstract:Common Mode Voltage (CMV) produced in Pulse Width Modulated (PWM) inverters causes premature failure of the motor bearings. Therefore CMV has to be reduced. Pre-calculated Harmonic Eliminated PWM (PHEPWM) scheme is proposed to reduce the CMV in three phase inverter. The accurate switching angles have to be calculated by solving nonlinear equations. The switching angles for the pre-calculated harmonic elimination technique are calculated by using Newton-Raphson algorithm. The proposed modulation scheme is evaluated and tested at various switching frequencies for different modulation index. With this PHEPWM it is possible to eliminate the lower order harmonics, 5th, 7th , 11th, 13th, 17th, 19th, and 23rd from the inverter output voltage for any desired value of the fundamental component in for any desired modulation

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index. The CMV in inverter using PHEPWM method is compared with CMV produced using classical Sinusoidal PWM (SPWM) method.

Keyword: Common Mode Voltage (CMV), Pulse Width Modulated (PWM), Pre-calculated Harmonic Eliminated PWM (PHEPWM)

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Authors:	**R. Sundar, C. Gnanavel, P. Muthukumar**
Paper Title:	**A Unique Single Source Nine Level Inverter with Reduced Switching Devices for Single Phase AC Applications**

Abstract:In recent times there is a huge demand in reduced switched multilevel inverter. The multilevel inverter is one of the attractive features in harmonics elimination. This paper proposes single source nine level inverter with reduced switching devices for single phase AC applications. The conventional cascaded and other multilevel inverter comprises of more number of switches, passive components as well as sources. This makes the system larger in size, weight as well as less cost effective. The proposed multilevel inverter has the ability of producing nine levels with reduced number of switches and source. In addition to that the single source nine level inverter utilizes the simplified control algorithm which reduces the complexity. The Sinusoidal Pulse Width Modulation (SPWM) scheme is one of the most common control techniques which have the simple structure. The operation of the circuit and control algorithm is discussed in detail. The results are verified by the Matlab/Simulink which shows the value and righteousness of the system.

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Keyword: Single Source, Reduced Switches, Nine Level, THD (Total Harmonic Distortion), Sinusoidal Pulse Width Modulation (SPWM).

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Authors:	**T.Baldwin Immanuel, P.Rathnavel, M.Rajavelan**
Paper Title:	**PV Fed Seven-Level Inverter using Fuzzy Control Technique**

Abstract:In recent decades, multi level inverter has been playing important role to lessen the total harmonic distortion in the power electronic converters. The number of switches and and its losses have been the critical factor in multi-level inverters. In this Proposed technique, photo-voltaic based seven level inverter has been proposed to adjust the harmonics in the multi-level inverter. This proposed circuit consists of DC to DC converter and capacitor selection circuit. The number of switches utilized is very less and switching loss also less. A part from simulation study, the hardware proves the advantages of proposed system.

Keyword: Multi-Level Inverter(MLI); Photo-Voltaic(PV); Optimization; Direct Current(DC).

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Authors: **W. R. Thulasi Brindha, T.Baldwin Immanuel**

Paper Title: **Modified PMSG System using Trans Z Source Network for Grid Connected UPFC System**

Abstract:This paper presents a grid connected UPFC system for PMSG wind power network using a Trans Z-source converter. The Trans Z-source converter has a common stage buck boost converter to produce DC voltage from AC input voltage by stabilizing the shoot through state. In the proposed system, the changing in shoot-through state is used to keep trans Z-source voltage regulation with respect to d-q current is capable to take out the more power from the turbine (wind) and fed to grid. The proposed system with UPFC has higherefficiency performanceand cost effectivecompare with conventional Z source PMSG based UPFC system. Matlab simulations are carried out and results prove that proposed system is better.

Keyword:PMSG,UPFC, TRANS Z SOURCE

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Authors: **Rathnavel P, Baldwin Immanuel, Rayavel P**

Paper Title: **Road Tyre Friction Used to Generation of Electrification**

Abstract:The current scenario of energy demands in India have waded new research areas for hunting the alternative energy resources to compensate the polluting non renewable resources. It brings larger importance to the idea of harvesting the frictional energy between the Roads and the vehicular tyres. This is exerted as a stress on the road surface accompanied by Heat dissipation. This wasted form for energy can be made productive by using Piezoelectric Generator and Thermoelectric Generator. Piezoelectric Generator generates electricity in response to stress acting on its mechanical axis while Thermoelectric Generator generates power when an ambient temperature difference is provided. These are embedded below the road surface with suitable insulations and proper structure to improve its performance. This system would have very low capital cost when compared to the total cost of power generation, transmission and distribution in conventional power generation methods with the life time of this system in concern . The pollution free electricity thus generated from the road by using these generators can be stored in a battery and later used for the domestic electrification. This method will be best suited for the electrification of all time loads like Traffic signals, street lights, lighting especially in highways.

Keyword: Piezoelectric Generator, Thermoelectric Generator, Power, Heat.

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Authors:	**P. Sai Gowtham Kumar, P. A. Sumanth Reddy, A. Mary Posonia**
Paper Title:	**Credit Card Fraud Detection using Machine Learning**

Abstract:Fraudulent transactions using credit card has been a growing concern with far reaching among various such as including government, corporate organizations, finance industry. Internet business is the most helpful answer for grow the client base and accomplish the biggest stage with a little venture. The fast development in the E-Commerce has significantly expanded Visas use for online buys and it actuated blow-up in the Credit card misrepresentation. For both online just as ordinary buy Credit card turned into the most well-known method of instalment, extortion cases associated with it are additionally emerging. The false exchanges are mistaken for certified exchanges and the basic example coordinating methods are not frequently enough to identify those cheats precisely. Effective location misrepresentation framework execution wound up basic to limit their misfortunes for all credit card issuing banks. Present day strategies dependent on Artificial Intelligence, Data mining, Fuzzy rationale, Machine learning, Sequence Alignment, Genetic Programming and so forth., are developed in distinguishing different Visa deceitful exchanges. When credit card transactions become a common mode of payment, machine learning has been based on handling the credit card fraud problem. This paper investigates naïve bayesian, k-nearest neighbor's performance on highly skewed credit card fraud based on genetic and optimization algorithm to determine the fraudulent transaction using credit card. Logistic Regression is a supervised classification technique which returns the probability of binary dependent variable predicted from the independent dataset variable that is logistic regression predicts the probability of different outcomes that have two values either yes or no and false or true. The Proposed System have been applied with genetic and optimization algorithm to find out the fraudualent transaction using credit card.

Keyword: Genetic & Optimization Algorithm, Regression, Machine Learning

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Authors: **A. Mary Posonia, P. Sai Gowtham Reddy, Peram Aneesh. P**

Paper Title: **Generating Rainfall Data using GANs**

Abstract:Rainfall prediction is one of the major discussions in the meteorology because it is a major factor on which many things in the environment rely on. Neural Nets or any other machine learning algorithms need very large amount of data in order to achieve better accuracy but sometimes data can be scarce, this type of problems can be resolved by using Generative Adversarial Networks. Generative Adversarial Networks which are known for generating data by using the existing features from the old data, like generating images etc. There are many types of datasets which are scarce, rainfall data in one among them. So, the proposed system generates the rainfall data using GAN. The generated data is used for training the classifier, which predicts the rainfall.

Keyword: Neural Network, Machine learning, Discriminator, Back propagation Network

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Authors: **M.J. Bharathi, V.N. Rajavarman, R. Shobarani**

Paper Title: **Implementation of Digital Signature Algorithm using Big Data Sensing Environment**

Abstract:WBAN is a self-governing and perceptive used to informant the activities of a person and to improve the individuality of people, which satisfies the requirements of the user's needs. In this paper, we propose a Big data retrieval unit in WBAN using Elliptical Curve Cryptography. Big data transmit the data through Map reduce and retrieve the data safely using ECCDS algorithm. Map-reduce is a programming method for accessing multiple data sets on multi-node hardware efficiently using a distributed storage process and it incorporate the entire in-between requirements connected via the identical in-among key in . Cloud Sim extensible toolkit is used to enable the modeling and to enhance the application provision.

Keyword: Map reduce algorithm, Hadoop, Cloudsim Architecture, WBAN Architecture

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714.	**Authors:**	**Farah B Mortadhal, Majid A Abdullah, K Parvin, M A Hannan, M A Salam**	
	Paper Title:	**Building Energy Utilization with LED Lighting and Occupant Sensing System**	
	Abstract:Building Energy management systems (BEMSs) are needed to monitor and regulate energy consumption in buildings, thus, contribute in reducing the environmental challenges facing our planet. A new energy saving method based on BEMS is proposed in this paper. The proposed method is a smart LED lighting system based on an Arduino microcontroller, a simple motion sensor, and a camera. A complete design and implementation of the smart lighting system is presented in the paper. In addition, the proposed smart system is validated in the paper under various experimental conditions. The results show that simple installation of commercially available motion sensors and cameras can contribute significantly to reduce the electricity bill and CO2 emission. **Keyword:**Energy; Buildings; Energy Management System; Smart Lighting System. **References:** 1. P. 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715.	**Authors:**	**Firas B. Ismail, Nizar F.O. Al-Muhsen, Fazreen A. Fuzi, A. Zukipli**	
	Paper Title:	**Design and Development of Smart Solar Grass Cutter**	
	Abstract:From the time immemorial, the sun is the major source of energy for life on earth used for heat and lighting. Nowadays, solar energyhas been known as a renewable energy source. It is an alternative energy to that of fossil fuel and it can be collected from the renewable resources such as sun, wind and hydro. This paper introduces a new development of grass cutter, named as Smart Solar Grass Cutter, by usingsolar irradiance as a primary energy source with the presence of a solar panel. This grass cutter prototype is developed to reduce air pollutant and improve the current design specifically the blade position based on the previous studies. With current technology, this new prototype is designed as remotely controlled grass cutter using Arduino UNO. Smartphone is used as the remote controller. After developing an established prototype, the design analysis is	**4137-4141**

carried out to bevalidate with the theoretical values to ensure that the prototype can be safely used. The Smart Solar Grass Cutter can operate more than two hours when the used battery is fully charged. Based upon the results, the Smart Solar Grass Cutteris reliable with high efficiency of the system compared to the previous studies. Therefore, it can be concluded that the prototype is reliable and environmentally friendly.

Keyword: Smart Grass Cutter,Solar Grass Cutter, Smart Solar System.

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Authors: **W N A A W Husni, M. Faisal, Pin Jern Ker, Dickson N. T. How, M A Hannan, M A Salam**

Paper Title: **Intelligent Home Automation System for Disabled People**

Abstract:This paper presents the intelligent Home Automation System (HAS) for disabled people, since still now facilities for disabled people are insufficient around the world. Numerous researchers developed different technologies considering Bluetooth technology, ZigBee system, and Wifi technology. However, these topologies lack efficient support for disabled people. Therefore, to engage the disabled people with the modern technology and make their life safe, secure and comfortable, authors have introduced the Rasberry Pi 3 Model B with Blynk application which is able to control the home appliances from their smart android phone. In this research, the motion of the intruder has been considered as the key parameters and HOG method is used to detect the motion. Experimental validation of the proposed model implies that this process is more secure and user-friendly for disabled people compare to other existing technology. Therefore, the main contribution of this research is to develop a secured automated system, which will enable the disabled people to control the home appliances and thus overcome the limitation of the existing technology.

Keyword:HOG, Blynk, Disabled People, Raspberry

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Authors: **Chong Tak Yaw, Keem Siah Yap, Shen Yuong Wong, Chin Hooi Tan**

Paper Title: **Extreme Learning Machine with Multi-Agent System for Regression**

Abstract:From the point of learning speed as well as generalization, Extreme Learning Machine(ELM) is widely known as an effective learning algorithm than the conventional learning methods. Basically, hidden neurons are not required in neuron alike, instead, weight is the parameter that would need to learn about the link in between output and hidden layers. The creation of an output is to integrate each independent of several ELMs. The precise approach is included in a Multi-Agent System. The novelty of ELM-MAS (extreme learning machine based multi-agent system) is put forward in the paper for solving data regression problems. The ELMs consist of two layers which are the parent agent layer and individual agent layer. The effectiveness of the ELM-MAS model is proved with some activation functions employing benchmark datasets (abalone, strike and space-ga) and real world application (Nox emission). The outcomes indicate that the proposed model is capable to attain improved results than other approaches.

Keyword: Extreme Learning Machine (ELM); Multi Agent System (MAS); Data Regression; NOx Emission of Power Plant

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	Authors:	**Chin Hooi Tan, Keem Siah Yap, Shen Yuong Wong, Mau Teng Au, Chong Tak Yaw, Hwa Jen Yap**
	Paper Title:	**Genetic Rules Induction Fuzzy Inference System for Classification and Regression Application in Energy Industry**

Abstract:Genetic fuzzy system encompasses genetic algorithm and fuzzy logic. It divulges the advantage of optimization with ease of understanding for classification and regression of energy performance of buildings, transformer, and harmonic current in energy industry. This paper presents development of a new rules induction algorithm namely genetic rules induction fuzzy inference system for classification and regression (GRIFISCnR) that combines genetic algorithm with fuzzy logic to facilitate efficient design of building, transformer and harmonic current filter in energy industry using Pittsburgh approach. GRIFISCnR possesses the rules induction capability over other algorithms for multi-class classification and regression problems without compromising on interpretability and accuracy. It manages to strike a balance between interpretability and accuracy, and yield better accuracy with lesser number of rules. It is easier to interpret and understand fuzzy rules as compared to numerical numbers.

Keyword: Fuzzy Inference System; Genetic Algorithm, Harmonic Current

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Authors: **Tiagrajah V. Janahiraman, Prakash Bala**

Paper Title: **An Ensemble Classifier based Power Quality Disturbances Classification**

Abstract:Evolution of the current modern era demands a huge and good power quality supply day by day. Power utility suppliers and power exchange specialist organizations face a noteworthy test in recognizing the kind of Power Quality Disturbances (PQD). Our research illustrates the technique of PQD classification by utilizing wavelet signal decomposition and Ensemble classification. A normal wave without disturbance and waves with PQD events of single-type and hybrid-type were generated using MATLAB using the mathematical model as per the definition and parameters outlined by IEEE 1159 and IEC61000 customary. Discrete Wavelet Transform (DWT) is pertained to decompose the signal form the generated PQD to get the illustration in time and frequency domain. In this research work, our database consists of 14000 generated signals of a normal wave and the PQDs, which were divided into 80% for the train set and 20% for the test set for each PQDs. An ensemble methodology for multiclass order was chosen as the classifier of the component vector for the PQD. Examinations were conjointly made with elective sorts of classifiers and different kinds of mother wavelet channel capacities to observe and investigate the exhibition qualification. The outcomes demonstrated that the blend of DWT and Ensemble Classifier delivers an optimal solution to recognize the class of PQD with a precision of 100% for each train and test set.

Keyword: Power Quality, Ensemble Method, Discrete Wavelet Transform.

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Authors: **M.Izadi, M. Tolou. Askari, M.Z.A.Ab Kadir, M.Osman, M.Hajikhani**

Paper Title: **Fault Detection of a Medium Voltage Cable Joint using Support Vector Machine Algorithm**

Abstract:Fault detection of the cable joints is one of significant problems in the electrical utilities and industrial companies to increase the network stability as the system interruption can make side effects for both power generation units, renewable energy generation units and other power sources beside of the costumers. In this paper, fault detection of a 20kV XLPE cable joint had been studied using the measured partial discharge (PD) signals and also support vector machine algorithm. In this study, the measured data had been classified based on proposed features as the indices of data classification and they had been used in the classifier algorithm to determine fault based on measured signals and the corresponding obtained features. The results show that the proposed features and applied algorithm could determine the faults in the cable joints with an appropriate range of accuracy. This study could develop the previous studies on a widely used cable joint. This research can be helpful for the electrical utilities to increase network stability.

Keyword: Partial Discharge, Cable Joint, Support Vector Machine

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Authors: **A Satheeshkumar, C W Lim**

Paper Title: **The Performance of waste Heat Recovery Systems using Steam Rankine Cycle and Organic Rankine Cycle For Power Generation**

Abstract:This paper presents extensive modelling of an Organic Rankine Cycle (ORC) system for a combined cycle power plant and to compare and evaluate the performance of ORC and Steam Rankine Cycle (SRC). In addition, ORC as a second stage waste heat recovery system after SRC too was modelled. Conceptual design of an ORC was made to replace the SRC system used in the power plant and its performance was compared with that of the SRC above. Upon replacing the steam cycle with ORC, the system efficiency is 7.63 %. The total energy destruction is 5140.41 kW. The result shows that ORC delivers very low system efficiency. The steam cycle produces 202.5MW whereas the presented ORC produces just 1.016MW of power. On the other hand, if ORC is implemented on the chimney the system will produce 0.2% of extra power on top the current power production of 675MW. The efficiency of this system is 7.81%. It is recommended to add the ORC at the chimney to tap more useful energy from the otherwise waste energy rejected into the environment.

Keyword: Comparative Study, Waste Heat Recovery System, Organic Rankine Cycle (ORC), Power Generation

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Authors: **B.Kugadarshni, R.K Shangari**

Paper Title: **Developing a Hydropower Vortex Induced Vibration System in Slow Stream Water**

Abstract:Energy resources are beginning to replenish and the reliability on renewable energy has increased to 30% as we approach year 2020. However the current sources of renewable energy used for mass generation also have its own drawbacks mainly in terms of costing, maintenance and geographical changes which incur environmental disturbances. Energy harvested from Vortex Induced Vibrations (VIV) in water with a continuous flow of more than 0.3m/s has the ability to replace conventional hydropower methods with a more cost efficient and environmental friendly way. This research managed to produce a prototype focused on using a spring system to maximize oscillations induced by the vortex in flowing water onto a cylinder shaped PVC pipe of a specific diameter. The energy harvesting method adapted in this system is a piezoelectric tape. Upon every oscillation, the designed system is able to flick the piezoelectric tape inducing a certain amount of voltage. Initial design of prototype was to discover the most adequate cylinder PVC pipe for vortex in water to produce oscillations. The best way to design the system was tested to maximize flow induced oscillations. The final prototype of this stage also found the best harvesting method for the transformation process of induced oscillation into electrical energy. At this stage the prototyping is detailed at combining the existing prototype and piezoelectric transducers. The end product successfully produced up to 0.2watts/second of power. However, the unstable flow conditions and small scale testing prototype incurred an inconsistent power generation. From this research, it was brought to conclusion that the prototype has to be of a larger scale for real life applications of vortex induced vibration hydropower system.

Keyword: Vortex Induced Vibration, Piezoelectric Energy Harnessing, Spring Induced Oscillations

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Authors: **N A N Hashim, J T H Loong, F A Hamid**

Paper Title: **Performance of Memristor Based Ring Oscillators True Random Number Generator for Energy Technology**

Abstract:We are living in an era where everything is trying to be more connected in terms of the different physical entities and its surrounding environment. This new concept that is developing called the Internet of Things (IoT) has garnered a lot of attention [Bodei, 2019 #45]. There are various of applications and smart objects associates with the IoT and this leads to an increase in security challenges. IoT security is very important

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but getting harder to achieve. One example of utilization of IoT is in the smart grid infrastructure and this in turn increases the need for network security. An integrated internet-based smart grid and energy resources also called Energy Internet (EI) has a lot of security challenges that comes with the current smart grid. Smart grid infrastructure and any means of energy that implements the internet system also known as Energy Internet (EI) has many security challenges that come with the current smart grid. A memristor based ring oscillator True Random Number Generator design has been proposed in this research as a solution that can combat security challenges that existed in the hardware implementation of devices. Inputs based on non-deterministic methods are being used in TRNGs to generate outputs that possessed randomness characteristics in applications of IoT that makes it secure. Complementary metal oxide semiconductor (CMOS) technology of 0.18 µm are being used in the TRNG design and a software of LT SPICE IV helps to realized it.The proposed TRNG design produced output that passed 10 out of the 15 NIST tests, therefore showed that the TRNG produce a fairly random output.

Keyword: True Random Number Generator; Memristor; Ring Oscillator; Hardware Security; Nanoelectronics.

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Authors:	**K. S. Rahman, Md. Rokonuzzaman, G. B. Xue, R. I. Thakur, K. M. Kabir, M. A. Matin, S. K. Tiong, N. Amin**
Paper Title:	**A Light Weight Solar Powered Mini Quadcopter for Environmental Monitoring**

Abstract:A flying quadcopter equipped with green and environment friendly solar energy is designed and implemented in this study for monitoring purposes. It is capable to operate with light weight small solar panel

generated power with designated light weight boost converter integrated in the body of the flying model. A preliminary design of the solar powered quadcopter has been performed by calculating and estimating the maximum lifting weight of flying model, voltage rating of the solar panel, battery voltage rating and its capacity. A charging during operation has been supplemented to the quadcopter to facilitate the operation as well as charging at the same time. In addition, crash protection structure has also been equipped to the design to reduce the impact to the structure during improper landing. With the enhanced ability of providing self-sustaining energy source, the quadcopter is capable to carry out environmental sensing with proper sensor mounted on it.

Keyword: Unmanned Aerial Vehicle; Solar Energy; Quadcopter; Environmental Monitoring; Charge Controller.

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Authors: **H. Shatnawi, C. W. Lim, F. B. Ismail**

Paper Title: **Solar Tower Power: The Impact of External Receiver on Optimal Performance and Energy Storage**

Abstract:An external receiver was seen as a major component of the Solar Tower Power (STP) plant. This generated stable power from concentrated sunlight. However, the flux distribution on its surface was an issue related to the external receiver that could affect the performance and energy storage in STP. The heat flux increased during long-term use, failure reduction, receiver efficiency and performance. The main advantage of the STP structure was its substantial heat storage capacity which allowed the system to generate stable and continuous electric power. In this study, the researchers reviewed existing literature to investigate the effect of the STP external receiver on the optimum energy storage and performance of the STP; especially regarding the solar flux distribution and efficiency. The researchers aim to improve the external receiver's optimal performance without affecting the incident heat fluxes. The literature review indicates that ideal receiver conditions lead to solar energy flux distribution optimal performance. Therefore, system optimisation was necessary to satisfy all limitations; like loss occurring due to heliostat field, solar flux flow patterns, external tubular receiver designs, and Heat Transfer Fluid (HTF) selection. These limitations, along with factors affecting these limitations, are reviewed in this study.

Keyword: Energy Storage, External Receiver, Heat Transfer Fluid, Solar Tower Power.

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Authors: **N H Nik Ali, A Mohd Ariffin, P L Lewin**

Paper Title: **Performance of Clustering Techniques of Multiple Partial Discharge Sources in High Voltage Transformer Windings**

Abstract:There are numerous of clustering techniques that have been exploited by researchers in many applications such in medical application, image processing application as well as in high voltage application. Clustering technique is an unsupervised learning algorithm used to identify group structure in a set of data that contain different characteristics. Nowadays, within the latest HV insulation system, there are more than one dielectric media, which contribute to multiple source of partial discharge (PD). Therefore, data identification for PD is significantly vital to discover the kinds of faults that inducing discharges in a HV insulation system. Nevertheless, it is critical that the methodology used for further investigation such as phase-resolved partial discharge (PRPD) analysis is capable of producing a sufficient separation between the clustered data. An experiment was performed to generate a pair of PD sources simultaneously within a winding of the HV transformer. The PD pulses were collected from two measuring points measured by two wideband radio frequency current transformers (RFCTs) at the bushing tap-point to earth (BT) and the neutral to earth-point (NE).The performance oft-Distributed Stochastic Neighbour Embedding (t-SNE), Principle Component Analysis (PCA) and time-frequency mapping based on sparsity roughness at distinguishing multiple PD sources is determined and presented.

Keyword: Partial Discharge; Clustering Techniques; High Voltage; Transformer.

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Authors: **Alaseel Bassam, M.N.M. Ansari, A.Atiqah, S. Begum, A.R.M. Nazim**

Paper Title: **Water Absorption Properties of Kenaf/Glass Reinforced Unsaturated Polyester Composites used in Insulator Rods**

Abstract:Kenaf fibres have acquired enormous attention in recent years, owing to their economic viability and environmental acceptability. Kenaf (natural) fibres have been started to replace the glass fibre (synthetic) in mechanical, electrical applications and have been utilized in several applications of industrial engineering. The current study deals with water absorption of kenaf/glass fibre reinforced unsaturated polyester composite materials used in high voltage polymeric insulator rods. The kenaf/glass hybrid composites were based on 20%, 30% and 40%(by volume) of kenaf fibers replacement glass fibres with modified 60 vol.% unsaturated polyester resins. The composites were immersedin distilled water at room temperature, and composites resistance to water absorption in terms of the rate of water absorption was determined.A considerable difference in the properties of water absorption of the hybrid composite was found demonstrating that the water absorption effect on the characteristics of insulator rods depends on the arrangement and volume fraction of kenaf fibre of the composite used. Based on the results obtained, a slight effect of water absorption on pure glass fibre composite (control) was observed. The addition of kenaf fibre on glass fibre composite rod increased the water absorption of the composite. It was shown that glass fibres surrounding kena ffibre reduced water absorption. Despite the fact that 40 vol.% of kenaf fibre composite had the highest natural fibre content, it showed the lowest water absorption because of its arrangement on all composite diameters, and also because of being surrounded by glass fibres. All of the materials reached equilibrium and ceased to absorb water after 300 hours.

Keyword: Kenaf Fibre; Glass Fibre; Insulator Rod; Hybrid Composite; Water Absorption.

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Authors: **M. E. Rusli, M. Ali, S. Yussof, N. Jamil**

Paper Title: **A Multi Platform for Utility using openFMBTM Reference Architecture: Chalenges and Lessons Learned**

Abstract:The exponential growth of smart micro grids is making centralized control unmanageable. Data generated by grid-edge devices are also inaccessible due to the installation of private micro grids with proprietary communication protocols. The OpenFMBTM reference architecture solves this interoperability issue and eases the manageability of huge data by creating a virtual node that would allow exchange information between field devices with the use of publish/subscribe paradigm. However, the OpenFMBTM framework is yet to be adopted by industries but researches related to the implementation of this framework is being conducted with the aim to find out the cost and reliability on performance issues such as accuracy, scalability and security. Smart Grid Interoperability Panel (SGIP) provided a live demonstration of OpenFMBTM framework at DistribuTECH conference. DistribuTECH demo provides a guideline to setup simulators deployed in a single Linux machine. This paper discusses about the simulation demo and lessons learned to further developing the project. The implemented demo focuses on the use of MQTT communication protocol for transport layer data transfer. The experiment uses the guidelines of the DistribuTECH demo and addresses the challenge of deploying the framework in real devices at industry level.

Keyword: Open Platform, Smart Grid, OpenFMB, Interoperability

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Authors: **Pradeep K. Khatua, Vigna K. Ramachandaramurthy, Jia Ying Yong, Jagadeesh Pasupuleti**

Paper Title: **Decoupled Control of Three Phase Grid Connected Solar PV System**

Abstract:A reliable grid connected Photovoltaic (PV) system require effective control schemes for efficient use of solar energy. This paper presents a three-phase grid tied PV system with decoupled real and reactive power control to achieve desired power factor with Maximum Power Point Tracking (MPPT) controller to get maximum solar energy. The synchronous reference frame (dq) control along with decoupling concept is used to control the DC-AC inverter output, while the Phase Locked Loop (PLL) synchronization technique is used to monitor and synchronize the voltage and current at the grid side. The DC-DC converter with Incremental Conductance (InC) based MPPT model is also designed in this paper due to better accuracy compared to Perturb & Observe (P&O) algorithm. The simulation is performed in MATLAB/SIMULINK and a 31.5 kW PV system is modelled to get 30 kW power with the help of MPPT at Standard Test Conditions (STC). Any power factor value between 0.85 lagging to 0.9 leading can be obtained by changingreference q current in this inverter control strategy. The simulation results show that the change of reactive powerdoes not affecttheactive power values of the system, which verifies the effectiveness of the decoupled control strategy of the inverter.

Keyword:PV System; Decoupled Power Factor; InC Based MPPT; Boost Converter; Grid Synchronization.

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Authors: **Joan Atheel Ahmad, Bisam Ehessan AL-Hafiz, Senan Adeel Alhasan**

Paper Title: **Application of Sustainable Transport Policies in Areas of High Frequent Density Campus of Jadiriya**

Abstract:This research investigates and discusses theimplementation ofthe master plan for transport and parking at the campus of University of Baghdad in 2017. Although the master plan emphasizes on economic benefits and revenue, it is benefit of environmental sustainability. Thus, there is a need to effectively implement the master plan and provide new proposals on sustainable transportation to reduce the number of private car parking spaces. The work began by analyzing the earlier designed general parking outline in university's master plan to determineif it meetsthe requirements of buildings after successive implementation. The success or failure of the master plan in relation to reduction in the demand for parking was also assessed. A statistical model was developed to represent the relationship between the area of roads required and the number of cars in parking, and the group of independent factors that are believed to have an impact on these numbers as well as to forecast

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future needs as regards parking spaces. The distribution of parking cars was found not be neither environmentally sustainable nor socially justifiable, given the clear variation in access time on foot from the nearest parking lot to the workplace. Nonetheless, the over 23% of non-users of vehicles on campus can contribute to the actualization of the concept of sustainable transport (walking). Therefore, this study recommends the preparation and implementation of detailed designs of sustainable transport and parking programs to reduce the planning, environmental, social and economic problems that exist in the master plan of the university campus.

Keyword: Parking spaces; Jadiriyah; Car Sharing; Campus of Jadiriya; Biking; Green track.

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Authors: **Y.L. Chua, R.S. Nicholas Yeo**

Paper Title: **The Performance of V-Trough Solar Concentrator Photovoltaic Systems at Varying Panel Surface Temperatures**

Abstract:The photovoltaic (PV) panel performances are dependent upon many factors. A study was executed to ascertain the effect of a V-Trough Concentrator (VTC) to be engaged on a PV Panel in this research where the performance of PV panels are compared at different surface temperatures both back and front. The experiment was conducted using two similar rated monocrystalline PV panels. One of the PV panels was installed with a VTC while the other is without the VTC that served as Control for benchmark purposes. The optimum VTC selected is a 60° VTC. Both PV systems were built with a lower supporting mechanism and were placed to operate under similar operating and weather situations, while the PV panel surface temperature both front surface and back surface, Open Circuit Voltage (Voc), as well as Short-Circuit Current (Isc) readings are being recorded down at specific time. The theoretical output is determined and compared. This paper ends with a presentation of the results obtained in a study on the PV panel surfaces temperature in relation to its performance by PV system using a 60o VTC.

Keyword: Photovoltaic System, V-Trough, Surface Temperature

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Authors: **Faraz Ahmed Shaikh, Sheroz Khan, AHM Zahirul Alam, Mohamed Hadi Habaebi, Dominique Baillargeat**

Paper Title: **Design an Ultra- Wideband Modified Wilkinson Power Divider Fed-by Balanced Antipodal Vivaldi Antenna Array for Imaging Applications**

Abstract:In this paper, design of compactand modified geometrical structure of 1-to-4 way ultra-wideband Wilkinson power divider used as a feeding network for 4-element of balanced antipodal Vivaldi antenna (BAVA) array has introduced. The proposed Wilkinson power divider has been designed and printed on low-cost Epoxy laminate substrate FR4 along with the thickness of 1.6mm and relative permittivity of εr =4.3 respectively. The transformation of power divider network which are based on bent corners as a replacement of

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sharp corners or edges used for the decrement in unintended radiation and employing a single radial stub on each branch to encounter the antenna-specifications. Further some adjustments in the dimension of stubs matching in order to increase the reflection of the power divider network. The design presents the model of a power divider and maintains an equal power splitting at different ports with practical insertion loss and conventional return loss below -10dB. The reasonable impedance matching has achieved at every single port with acceptable isolation performance values over the (3-to-10 GHz) frequency range. The divider as well as antenna elements design and its optimization are practicable via computer simulation technology (CST) simulation software. The experimental results are revealed to encounter the array-specifications under ultra-wideband frequency range..

Keyword:UWB; BAVA and CST.

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Authors: **N. Ferdous, Goh Chin Hock, S. Hamidah**

Paper Title: **Design of an Elliptical Patch Antenna for RF Energy Harvesting Application in 2.4 GHz Frequency band**

Abstract:In this paper, the design and prototype of an elliptical patch antenna is presented, which operates at the frequency of 2.4 GHz frequency band. It harvests energy from 'Radio Frequency' waves. The elliptical antenna has an antenna substrate made with FR4 board with dielectric constant of 3.95. The paper presents the simulation results of the basic parameters of the antenna such as: return loss, input impedance, bandwidth, gain, directivity and efficiency. The experimental results for return loss, band width and input impedance was also presented in the paper. The antenna has a gain of 5.84 dB, directivity of 6.25 dBi, return loss of -43.35 dB, bandwidth of 373 MHz, input impedance of 50.35 Ω and efficiency of 90%. The high gain, properly matched impedance for minimum return loss and high efficiency of the antenna make it eligible for energy harvesting application.

Keyword: Patch antenna, Energy harvesting, Radio Frequency, Antenna design

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Authors: **N. Khamis, C.S. Tan**

Paper Title: **Time of use Period Determination for Residential Customers in Peninsular Malaysia**

Abstract:Time of Use (TOU) is basically one of the demand response programs which enable the end-user consumers to adjust their energy use in response to changes in electricity prices over a period of time with an incentives. Generally, Time-of-Use implementation helpto reduce system's maximum demand by transferring some of the demand into different hours. Time-of-Use also is a cost reflective electricity pricing scheme in which days are commonly split into multiple periods such as peak, mid-peak and off-peak. The residential sector is expected to have the highest growth as compared to commercial and industrial sectors. This is due to an increase in population and increasing living standards which increase the number of households and the electrical electricity consumptionper householdas more households and individuals choose to buy more electrical appliances. This paper presented a new clustering method called Jenks Natural Breaks in order to segmentize the Time of Use period for the residential customers in Peninsular Malaysia. A comparison of K-Means clustering method and the proposed Jenks Natural Breaks method is presented in this paper. The time of use determination are performed using these two methods based on the average of six actual residential customer's load profiles. In this paper, two-part periods (zones) segmentation of TOU areconsidered for analysis and discussions. The results

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shows the TOU Peak period using the K-Means clustering method is between 10.00am and 8.00pm while for a new proposed Jenks Natural Breaks method the TOU Peak period is between 9.00am and 8.00pm.

Keyword: Time of Use, Residential, Jenks Natural Breaks, k-Means clustering

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Authors: **E.Srividhya, A.Muthukumaravel**

Paper Title: **Tongue Image Analysis for Medical Diabetes Diagnosis using Canny Edge Algorithm**

Abstract:Tongue diagnosing is one amongst the vital areas in diagnosing most of the diseases, so tongue designationhas received more significance among the experts. Tongue diagnosing is usually carried out by processing the tongue images, but the processing of tongue image is not easy task to carry out. The difficulty strikes because of the irregular shape of the tongue, interference of lip with the tongue, the different shape of the tong etc. In this paper, we proposed support vector machine (SVM) based tongue classification method for processing the tongue image. Shape detection Hough transformation is used, an edge detectoruses canny edge algorithmfor extracting the shape of the tongue, Gabor features are used to extract the texture features of the image. Color feature extraction is done by extracting 12 color features, color image segmentation strategy and region of interest is used for segmentation. Finally, classification is done by using SVM classifier.

Keyword: Tongue diagnosis, SVM, Canny Edge Algorithm, Gabor features.

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Authors: **J.V. Sai Prasanna Kumar**

Paper Title: **Estimation of Mode-III Interlaminar Fracture Toughness in GFRP Laminates**

Abstract:The composite material is heterogenous in nature has several applications ranging from sports to defence industries replacing the conventional materials. Assessing the strength composite material for out of plane delamination characterization is a challenging task. One of the test specimens which can simulate the out of the plane loading is the Edge crack torsion (ECT) specimen, to study thedelamination growth in composite laminates in a controlled environment. For the present work a fixture was developed to simulate out of plane loading and hence to estimate mode-III fracture toughness. The testcoupons werecast using from bi-directional satin glass fibre woven mat, subsequently a starter crack was introduced in the mid plane. A 100 KNInstron Universal test loadingframe was used in static condition. It was observed that the crack growth did initiate from specimen centre.The fracture parameter experimentally measured was found to bedependent on the crack growth.

Keyword: Delamination, Edge Crack Torsion Test Specimen Fracture toughness, GFRP Mode III, Out of Plane Loading, Radiographic Scanning

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Authors: **Sh. Shukhratov, R. Makhsudov, A. Djuraev, R. Milašius, I. Yakubov**

Paper Title: **Determination of Parameters of Grates on Rubber Brackets of Fiber Material Cleaners**

Abstract:The article shows the installation scheme of the grate and the principle of operation of the cleaner of fibrous material from large litter. The oscillation of the grates installed in the upper and lower cleaning zones with different thickness of the rubber support was studied. On the basis of theoretical studies of the grate in the form of a single-mass system, regularities of the change in vertical mixing and speeds of grates are obtained. Graphical dependences of the change in the amplitude of oscillations of the mixes and the speeds of the grate are constructed on the variation of the mass of the grate, the disturbing force on the cotton being revealed, and also on the stiffness coefficient of the elastic support. Full-factorial experiments obtained regression equations. By solving the problem, graphical dependencies of the change in the cleansing effect on incoming factors are constructed. The analyzes substantiate the parameters of the fibrous material cleaner.

Keyword: Fibrous material, cleaner, large litter, rubber support, thickness, vibration, stiffness, dissipation, full-factor, optimization.

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Authors: **A. Mathiarasu, M. Pugazhvadivu**

Paper Title: **Characterization of bio-Oil produced by Microwave Pyrolysis of Karanja Seed.**

Abstract:Pyrolysis is one technique that produces three products in a short span of time in which both conventional and non-conventional method of heating (microwave irradiation) can be done. Karanja seed powder is taken as the feedstock in this microwave pyrolysis experiment. Proximate and Elemental analysis of karanja seed powder resulting volatile content of about 84.89% and moisture content of 10.11% whereas the Carbon of 52.08%, Hydrogen of 8.26%, Sulphur of 0.21%, Nitrogen of 4.02% and oxygen of 35.04%. Microwave pyrolysis for karanja seed was conducted for two power inputs of 700W and 800W in which bio-oil yield is high of 47% at 700W and non-condensable gases of 39% at 800W. The FT-IR results resembles the presence of aliphatic compounds. The TGA analysis was also taken for the produced bio-oil. The rheological study was made to determine the dynamic viscosity of the produced bio-oil at 50 rpm in room temperature which is averaged to 52 cP. The flash point of 90°C and fire point of 94°C was also determined for the produced bio-oil.

Keyword: Dynamic viscosity, FT-IR, Karanja seed, Microwave pyrolysis.

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Authors:	**Tanuja Das, Ramesh Saha, Goutam Saha**
Paper Title:	**Extracting and Transforming Heterogeneous Data from XML files for Big Data**

Abstract:Digital technology is fast changing in the recent years and with this change, the number of data systems, sources, and formats has also increased exponentially. So the process of extracting data from these multiple source systems and transforming it to suit for various analytics processes is gaining importance at an alarming rate. In order to handle Big Data, the process of transformation is quite challenging, as data generation is a continuous process. In this paper, we extract data from various heterogeneous sources from the web and try to transform it into a form which is vastly used in data warehousing so that it caters to the analytical needs of the machine learning community.

Keyword: Big data, data transformation, data warehousing, ETL.

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Authors: **Yee, M. H., Mohamad, N. A., Ahmad Zubir, R. A., Kok, B. C., Tee, T. K.**

Paper Title: **Polytechnic Student's Readiness Towards Project Based Employment**

Abstract:Project Based Employment (PBE) is the current trend in employment that is gaining momentum. The growing need for PBE has led to the need for employees with high knowledge and skills as well as good attitude. The aim of this study is to identify the readiness of polytechnic students towards PBE in two Conventional Polytechnic from the southern zone states. This study employed a survey method. A total of 361 students comprised of first, second and third year from Civil Engineering, Electrical Engineering and Mechanical Engineering courses from Politeknik Melaka and Politeknik Port Dickson were selected as study samples. The instrument of this study is a questionnaire with the alpha value .919. Data obtained were analysed using SPSS software version 21.0. Descriptive analysis in the form of mean score was used to identify the readiness of polytechnic students towards PBE. The findings show that polytechnic student`s readiness is in high level in terms of knowledge, skills and attitude towards PBE. From the knowledge aspect, polytechnic students know that PBE can provide employers with skilled and knowledgeable employees. Meanwhile, from the employability skills aspect, it shows that polytechnic students have the ability to interact well when working in groups. From the technical skills aspect, polytechnic students can complete their practical work by using the right equipment corresponding with the current PBE demands. From the attitude aspect, polytechnic students are always trying to develop themselves in the field they are involved in. In conclusion, polytechnic students are ready to face PBE in the future and they have initiative to improve their knowledge, skills and attitudes to the higher level to align with current industry demand. Overall, the results of this research have been able to help graduates and other educational institutions to improve and enhance the quality of students in line with the country's demand.

Keyword: Project Based Employment (PBE), Knowledge, Skills, Attitude

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741.

Authors: **Nirmal Godara, Sanjeev Kumar**

Paper Title: **Opinion Mining using Machine Learning Techniques**

Abstract:Sentiment analysis or opinion mining has gained much attention in recent years.With the constantly evolving social networks and internet marketing sites, reviews and blogs have been obtained among them, they act as an significant source for future analysis and better decision making. These reviews are naturally unstructured and thus require pre processing and further classification to gain the significant information for future use. These reviews and blogs can be of different types such as positive, negative and neutral . Supervised machine learning techniquess help to classify these reviews. In this paper five machine learning algorithms (K-Nearest Neighbors (KNN), Decision Tree, Artificial neural networks (ANNs), Naïve bayes and Support Vector Machine (SVM))are used for classification of sentiments. These algorithms are analyzed usingTwitter dataset. Performance analysis of these algorithms are done by using various performance measures such as Accuracy, precision, recall and F-measure. The evaluation of these techniques on Twitter datasetshowed predictive ability of Machine Learning in opinion mining.

Keyword: Sentiment Analysis, KNN, Decision Tree , Artificial neural networks (ANNs), Naïve bayes and SVM

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742.

Authors: **Shcherbakov I. D., Katsupeev A. A., Shcherbakova M. V., Tjaglicova P. V.**

Paper Title: **Methods of Forming the Control Voltage in the Current Generation Problem for Electrical Impedance Tomography**

Abstract:The paper considers questions of control signal for injection current generation in electric impedance tomography devices. The most common injection current generation scheme is voltage controlled current sources. In these circuits, the shape, frequency and amplitude of the current are set by the control voltage. The most common control voltage generation schemes are considered; their advantages and disadvantages are indicated. A circuit using direct digital synthesis and an amplitude-tuning digital-to-analog converter was selected, its block diagram was developed, and an operation algorithm was described. The developed scheme will improve the efficiency of the research by the method of electrical impedance tomography due to the complete automation of the process of controlling its parameters.

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Keyword:electrical impedance tomography, current source, voltage generator, hardware structure.

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743.

Authors: **K. Nandakumar, Adarsh Vijayan Pillai, S. Priyadarshini, R. Sitharthan, K. R. Devabalaji**

Paper Title: **Design of Low Cost Wireless Surveillance System for Aircraft**

Abstract:The aim of the project is to estimate the position and orientation of a moving platform in a 3D environment which is of significant importance in many areas such as robotics, sensing, surveillance and Unmanned Aero Vehicles. In order to perform this, one can employ single or multiple sensor fusions to improve the accuracy of estimation and to compensate for individual sensors deficiencies. We are using camera surveillance controller system in which we control the movement of the camera and it is live video streaming to a remote location. The camera is made to view +180 to -180° by using servomotor. The GPS and IMU sensor modules are implanted onto the model for controlling and monitoring the flight. Wireless technology allows viewing remotely and controlling the flight as required. This paper focuses on LOW-COST WIRELESS SURVEILLANCE for improved security, more flexible and efficient systems.

Keyword:IMU, GPS, SURVEILLANCE, LabVIEW

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Authors: **Aswin Wibisurya, Ikhtiar Faahakhododo**

Paper Title: **Meeting Scheduling Application using Availability and Priority Attendance Heuristics**

Abstract:Meeting scheduling is a repetitive and time consuming task for many organizations. Emails and electronic calendars has been used to help a meeting host in this process. However, it does not automate the process of searching the optimal time slot. Manual scheduling may result in suboptimal schedule. Therefore, automation is needed for meeting scheduling problem. The purpose of this research is to propose an applied model consisting of both acquiring participants' existing schedule, and searching for an optimal time slot. Previous studies groups the solution of meeting scheduling into either constraint satisfaction or heuristics approach. Heuristics is more appropriate for a dynamic environment. The heuristics-based model is designed to consider participant availability and participant prioritization. The more participants are available, the better the time is as a candidate for optimum schedule. In the proposed model, the availability of certain key person, experts, or host may carry more weight than normal participant. An Android based application is developed as a prove of concept of the proposed model. Google Calendar API is used in this model to acquire the existing schedule, then each time slot is assigned a score based on availability weighting. The time slot with the highest score is considered the optimal solution. Evaluation is done by simulating the scheduling part for various numbers of meetings and time slots. The result shows that the model is capable of searching the optimal meeting schedule in less than one second for each of the experiment.

Keyword: Meeting scheduling problem, agent-based, heuristics, mobile application.

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Authors: **Anupama Jain, R. K. Pateriya**

Paper Title: **Visual Cryptography Based Authentication Technique for Cloud Environment using SVD Factorization**

Abstract:World is going toward digitalization and cloud computing plays an important role to connect digital devices for communication with each other. Communication with authentic device and secure its illegal access is the main feature of cloud providers. With the growth of cloud technologies attackers are also finding different attack vectors to break down the cloud authentication system. Previous research illustrates that there is need to develop strong authentication technique to strengthen the trust on cloud systems. This paper demonstrated a visual cryptographic authentication technique for cloud environment. The technique is based on the SVD factorization method. SVD works effectively to create multiple shares of an image and make strong authentication algorithm on the basis of random image feature selection. Result analysis shows that SVD factorization works effectively rather than LU factorization in cloud environment.

Keyword: Cloud Authentication Technique, SVD Factorization, Visual Cryptography, Image factorization, Cloud Security, Tenant Privacy Preservation.

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746.

Authors: **Hemalatha Eedi**

Paper Title: **Artificial Music Generation using LSTM Networks**

Abstract:Advancements in machine learning have minimized the gap of variation between human and algorithm composed music. This paper realizes a music generation system using evolutionary algorithms. The music generation is fully automated with no requirement of human intervention. Multiple music sample from a single dataset were used to the neural network. Software has been constructed to exhibit the results over various datasets. The proposed model is based on recurrent neural network with the input layer represents a measure at time T, and the output layer represents the measure at time T+1. The approach results in generation of new music composition by the system. Composition rules are used as constraints to evaluate the melodies generated by the novel neural network. Thus, the results are expected to evolve to satisfy the defined constraints. The proposed system of work would be capable of music generation without human intervention.

Keyword: Machine Learning, Music Generation, Recurrent Neural Networks.

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747.

Authors: **Sumalatha. S, Rajeswari**

Paper Title: **Implementation of 2D-DCT as an Efficient Accelerator for HEVC Video CODEC**

Abstract:Programmable architectures like GPU based embedded system for video and imaging applications are widely used due to their high performance, as they allow flexibility for running customized functions. However these architectures do not allow reconfiguration of the architecture at run time and optimization of the hardware resources. This paper explores the FPGA based architecture suitable for all video CODEC standards used in multimedia applications which is both programmable and reconfigurable. The proposed architecture demonstrates an accelerator to perform two dimensional 8*8 discrete Cosine Transform (DCT) and Inverse Discrete Cosine Transform (IDCT). The accelerator can be reconfigured to compute higher order two-dimensional DCT/IDCT according to different system requirements and is implemented on Xilinx Zynq evaluation board 7vx485tffg1157-1. The architecture is found to have a high scalability in terms of power and area. The synthesis results reads, 48% improvement in both dynamic and static power consumption, with optimal hardware utilization suitable for high performance video CODECs.

Keyword: Accelerator, DCT/IDCT, Micro-architecture, HEVC, Instruction Level Programming (ILP), VLIW, SIMD.

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Authors: **Priyadarshini Ch., M. Kalyan Naik**

Paper Title: **Design of Ultrasonic Conical Horn using Aluminium Alloy and Steel**

Abstract:Horn plays an important role in ultrasonic machining process. The design of horn is critical to its efficiency and quality of machining process. Ultrasonic horns are tuned. Components designed to vibrate in a longitudinal mode at ultrasonic. Frequencies. Reliable performance of such horns is normally decided by the uniformity of vibration amplitude at the working surface and the stress developed during loading condition. The design parameters of horn are calculated from the theoretical derivation of horn. By these parameters, the horn is designed and analyzed using CREO PRO and ANSYS software. In this paper the main object of the project is to Improve the performance of the Horn from the analysis test results, The horn is compared with other available horn results by comparing its natural frequency, amplitude vibration and temperature of the horn.

Keyword: Ultrasonic horn, Ansys, Creo pro, Aluminum alloy, steel.

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Authors: **N. Donald Jefferson Thabah, Bipul Syam Purkayastha**

Paper Title: **Khasi to English Neural Machine Translation: an Implementation Perspective**

Abstract:Being able to translate and communicate consistently from one language to another would have been the ultimate goal of an intelligent system. With recent advancement of Neural Machine Translation (NMT), it has shown a promising solution to the problem of machine translation. NMT generally requires large size parallel corpora to obtained a good translation accuracy. In this paper, we would like to explore a Translation system from Khasi to English language using both supervised and unsupervised technique. Unsupervised was inspired to help attaining a better translation accuracy for low resource language. It was influenced by the recent advancement of unsupervised neural machine translation which primarily relies on monolingual corpora. In this work, Supervised NMT technique was also implemented and compared with the standard OpenNMT toolkit. Here, we also use Statistical Machine Translation (SMT) tools like Moses as a standard benchmark to compare the translation accuracy. When considering monolingual corpus, we obtain an accuracy of 0.23%. Given the small size monolingual corpus the result was lacking but showed promising rooms for improvement. We obtain much better accuracy of 35.35% and 41.87% when we use parallel corpus in supervised NMT and OpenNMT respectively. On comparison with SMT system with Blue score of 43.76%, the supervised NMT system was on par in its performance. Lastly, with improvement in corpus size and better adaptation of preprocessing steps on the source language (Khasi) the result can be tune to a better outcome.

Keyword: Khasi to English NMT, machine translation, supervised NMT, unsupervised NMT .

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750.

Authors: **Girdhar Gopal Ladha, Ravi Kumar Singh Pippal**

Paper Title: **An Efficient K-Means Method Based on Centroid Handling for the Similarity Estimation**

Abstract:The main aim of this paper is to handle centroid calculation in k-means efficiently. So that the distance estimation will be more accurate and prominent results will be fetched in terms of clustering. For this PIMA database has been considered. Data preprocessing has been performed for the unwanted data removal in terms of missing values. Then centroid initialization has been performed based on centroid tuning and randomization. For distance estimation Euclidean, Pearson Coefficient, Chebyshev and Canberra algorithms has been used. In this paper the evaluation has been performed based on the computational time analysis. The time calculation has been performed on different random sets. It is found to be prominent in all the cases considering the variations in all aspects of distance and population.

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Keyword:K-means, Centroid Handling, Distance measures, Similarity estimation.

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Paper Title:

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Authors: **B. Muthu Senthil, V. Dhanakoti, Sabarish. J, Sonali. S**

Paper Title: **Smart Storage with the Internet of Things and Voice Recognition**

Abstract:In the era of automation ruling the world by coming into each and every field, now it has entered into the field of Storage. Automation has reduced the time complexity and the manual power in the entire field it has intruded. And likewise it will reduce the time complexity and tracking of the stored items and retrieving the same from the storage. This model of storage can be done with the help of Internet of Things, Cloud computing and machine learning. Cloud computing plays a major role due to its robustness and its portability which does give an extra edge in the business. To survive in business today you need to make smart choices. Storage can be a small business savior. This model can be used in many fields like medicine, business etc. Tracking and retrieving in these large amounts of storage can be made easier with the help of database.

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Keyword: Automation, Storage, Internet of Things, Machine learning, Cloud Computing & Datasets.

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Authors:	**Pravin Kumar Pandey, Sandip Kumar Singh**
Paper Title:	**Phishing Diagnosis: A Multi-Feature Decision Tree-based Method**

Abstract:Phishing is an electronically connected criminal activity in which the attacker steals the user's personal information like username, countersign, internet banking account, credit/debit card number with the expiration date, password, pin, legitimacy, confidential patient record, CVV number, etc. to boon financially. Email-based phishing is the most common and traditional way of phishing scams, in which the phisher will send a suspicious email with an embedded URL and ask the user to click the URL. When the user clicks on the link, the link will be redirected to a spoofed site that looks the same to the original site to steal their credentials and displays some error message. Later the phishing uses those credentials for malicious purposes. To overcome these scams, many anti-phishing tools have developed. Among that the machine learning-based approaches can give a better result. This paper is an extensive study of the various machine learning-based anti-phishing approaches and their results that detect the phishing URL's from the URLs with URLs features. Six most important models of machine learning have been examined for the phishing detection problem. The Decision Tree-based method outperforms other methods.

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Keyword: Phishing, Anti-phishing, Machine learning, Phish tank, Legitimate, Suspicious, Decision Tree.

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Authors: **Y. Mohana Roopa, M. Ashoka Deepthi, Novy Jacob**

Paper Title: **Growing Trends in Indian Farming using Internet of Things (IoT)**

Abstract:India is a land of different weather conditions and versatile soils. Every year Indian farmers are facing problem of sudden rain in their areas without any correct weather forecast which leads to damage of the already grown crops. The second major problem pertaining to Indian farmers is the lack of sufficient knowledge about their soil. The soil forecasting of how the soil structure is changing day by day due to different weather condition and other external factors, and which crop will be optimally suited to be grown in such soil are some of the problems common to the farmers.

This paper makes an attempt to assess and propose model solution along with developing a prototype of device using IoT for use by farmers in Indian agriculture practice. The solution proposed will have a centralized data server to analyze the data and report to the farmer the precautionary steps to be taken in advance for safety of the crops. The solution proposed have eco-friendly energy management through solar plant and wind energy which makes IoT device more portable and low cost, along with making it implementable in Indian rural sectors..

Keyword: IoT, Indian Farming, Weather Forecast, soil checkup, GPRS.

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Authors: **P. M. Khandare, S. A. Deokar, A. M. Dixit**

Paper Title: **Integrated Dwt-Differentiation Algorithm for Fault Detection and Relay Coordination in Micro Grid**

Abstract:The Bidirectional flow of current makes it difficult to detect fault in the microgrid. The level of fault current changes continuously with change in load, it leads to selectivity and sensitivity issue of relay. In this paper integrated DWT-differentiation algorithm is proposed for fault detection and relay coordination, the input waveform of fault current is proceed with discrete wavelet transform. Time scale function of DWT used to extract exact feature from signal which helps in further effective analysis. The Optimization function of relay is mainly depends on PSM (plug setting multiplier) and TDS (Time dial span). The Fault current used to calculate this parameter are already analyzed from DWT. Standard 9 bus IEEE system is used as reference. Fault is detected at 21 different locations; initially primary protection is activated and secondary protection operates only if first selected pair of relay fails to operate .The differential algorithm select best pair of backup relay and relay coordination is carried out resulting in reduction of operating Time.

Keyword: Microgrid protection; Relay coordination; fault detection; differential algorithm.

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Authors: **E. Subramanian, C. S. Sanoj**

Paper Title: **A Computation Model for Plannedand Functional Systems using Enterprise Information Technologies**

Abstract:All the large scale and medium scale companies have the anticipation of obtaining long term benefits perhaps of short term financial losses, probable breakdown as well. For that Enterprise Information Technologies (EIT) put into service by many large scale and medium scale companies in an increasing number in the expectation of achieving long term benefits. EIT is a very costly and risky asset of Information Technology and the assessment is done based on the increase in the production and the reinforcement of corporate restructure through the business integration process. To work out this, we propose Analytical Network Process (ANP) to handle distinguished assessment of associated set of evident, critical and operational attributes. To illustrate the stability and the consequential administrative significance, we perform analyzes and carry out experiments with real-world data.

Keyword: Analytical Network Process (ANP), Enterprise Information Technologies (EIT), Enterprise Resource Planning (ERP)

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Authors: **C.Akash Mahadevan, S. Kanishka, Saisurya. S, V. Arun**

Paper Title: **Diabetes Impacted Cardiovascular Disease Prediction using Machine Learning**

Abstract:Utilizing big data growth in biological and health communities, an accurate analogy of medical data can benefit the detection of diabetes impacting cardiovascular diseases. Using k-Means clustering (kMC) algorithm for structured data of heart disease patients, we narrow down to cardiovascular diseases impacted by diabetes. To our knowledge, none of the previous work focused on predicting heart diseases specifically for diabetes patients. Contrasted to multiple other prediction algorithms, the accuracy of predicting in our proposed algorithm is faster than that of other prediction systems for cardiovascular diseases.

Keyword: Cardiovascular diseases, Diabetes, Prediction.

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Authors: **Jayadurgalakshmi. M , Udhaya Kumar. T**

Paper Title: **Effect of Steel Fibre in Non-Conventional Self Compacting Concrete**

Abstract:In this study self-Compacting-Concrete containing steel fiber offer improvements on strength parameters of self-compacting concrete for M-30 grade of concrete using steel fiber. The main objective of this project has to find the effect of steel fiber on fresh and harden properties of Non-conventional self-compacting concrete. The use of fibers extends its potentialities since fibers arrest cracks and retard their propagation. In this investigation Mix proportion of concrete was 1:1.67:1.31 and maintaining water-cement ratio of 0.6 in order to find harden properties of steel fiber reinforced concrete (SFRC) containing fibers of 1%, by volume of cement. The flexural and split tensile strength of becomes higher compared with the conventional concrete. The non-conventional SCC with demolished aggregate is less costly than the conventional concrete.

Keyword:conventional concrete, demolished aggregate, segregation, self compacting concrete, steel fiber.

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Authors: **Nosir Sharibayev, Jasurbek Mirzayev**

Paper Title: **Temperature Dependence of the Density of States and the Change in the Band Gap in Semiconductors**

Abstract:The temperature dependence of the density of energy states in semiconductors has been studied. Strong doping with impurities with deep levels broadens the conduction band and the valence band. This enhances the absorption of light below the red border. Consequently, a possible change in the width of the forbidden zone. In this paper, using the mathematical model, temperature dependence of the density spectrum of states, changes in the band gap are shown by analyzing the density spectrum of energy states, an explanation of the anomalous temperature dependence in acceleration semiconductors is proposed, the effects of doping with a high concentration on the band gap of the semiconductor are investigated. Explained absorption in the range of 0.6-0.9 eV for silicon.

Keyword:density of states, energy gaps, doping, impurity, forbidden semiconductor zone, control of energy bands, accelerated semiconductor.

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760.

Authors: **S.V.S Prasad, T. Vijetha, A. Sudhakar, M. Raju Naik**

Paper Title: **Smart Ration Card System using Lab View**

Abstract:This paper proposes the innovative distribution system called "smart ration card program using LabVIEW." Money is wasted in the PDS (public distribution system) due to corruption. Instead of a traditional ration card, this paper utilizes the basic RFID Tag system used as an e-Ration card. This machine is identical to the one used by ATM Machine. Compared to our debit / credit card, the e-ration card. Instead of a conventional ration card, the user must use this card to get the ration from the proposed system. Research on reducing bribery and better management of PDS (public distribution system) is being brought together from our side.

Keyword: Corruption; GSM;RFID; Servo Motor; Ration Distribution System

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Authors: **Mark Anthony A. Castro, Jerwin F. Deysolong, Anthony S. Tolentino**

	Paper Title:	**Energy Harnessing System using Thermoelectric Generator with Radiation Concentrator and Solar Tracker**	
	Abstract:Harnessing systems gather the attention of many researchers today as the energy demand increase with an escalating price of fuel. Studies about renewable resources are kept being pursued by different countries to aid the deficiency of main power producers in their respective locality. Thermoelectric generators, which utilize the Seebeck effect to convert heat into usable electric energy, is the main focus of this study. It has been added with a radiation concentrator and solar tracker to maximize the heat accumulation for larger temperature difference which results to a great amount of stored energy. The energy coming from the sun is focused and concentrated using a Fresnel lens to optimize the heat and increase the output of the thermoelectric generator. The energy is then inserted in a charge controller to have a constant dc voltage output. The output voltage now will be utilized by low powered and devices and has a backup battery storage for the energy. **Keyword:**energy harnessing, solar tracker, charge controller, green engineering, thermoelectric energy, seebeck effect. **References:** 1. Chow, L. S., & Abiera, M. (2013). An Optimization of Solar Panel with Solar Tracking and Data Logging. 2. T. Hendricks; W. T. Choate (2006), Engineering Scoping Study of Thermoelectric Generator Systems for Industrial Waste Heat Recovery, US Department of Energy 3. Stecanella, P.A.J., Faria, M.A.A.,Domingues, E.G., Gomes, P.H.G., Calixto, W.P., & Alves, A.J. (2015). Eletricity Generation Using Thermoelectric Generator – TEG. 4. Kumar S., Heister S., Xu, X., Salvador J.R., & Meisner, G. P. (2013). Thermoelectric Generators for Automotive Waste Heat Recovery Systems Part I: Numerical Modeling and Baseline Model Analysis. 5. Reyes, A. A. G., Guinto, J. R. D., Lacson, J. D., & Pelayo, J. S. B. (2015). Development and Efficiency Testing of a Closed-Cycle Hot-Air Engine with Neodymium Magnet Generator for 150 Watts Loading. Electrical Engineering Department, Don Honorio Ventura Technological State University. 6. Kadirvel, K., Ramadass Y., Lyles, U., Carpenter J., Ivanov, V., McNeil, V., Chandrakasan, A. & Lum-Shue-Chan, B. (2012). A 330nA Energy-Harvesting Charger with Battery Management for Solar and Thermoelectric Energy Harvesting. IEEE International Solid-State Circuits Conference, Session 5, Audio and Power Converter 5.8m, 106-108. 7. Decker, A. (2014). Solar Energy Harvesting for Autonomous Field devices. IET Wireless Sensor Systems, 2014, Vol. 4, Iss. 1, pp. 1–8 8. Braley, J. S. (n.d.), Photo Detectors. Retrieved from http://www.ele.uri.edu/Courses/ele432/spring08/photo_detectors.pdf 9. Thermal conductivity (n.d.). Retrieved from: http://hyperphysics.phy-astr.gsu.edu/hbase/thermo/thercond.html 10. Thermal Conductivity Table (n.d.). Retrieved from http://hyperphysics.phy-astr.gsu.edu/hbase/tables/thrcn.html#c1 11. Heat Transfer (n.d.). Retrieved from: http://hyperphysics.phy-astr.gsu.edu/hbase/thermo/heatra.html#c1 12. Stepper Motor Basics (n.d.). Retrieved from http://www.solarbotics.net/library/pdflib/pdf/motorbas.pdf 13. Ryan, V. (n.d.). Gears and Gear Ratios http://bowlesphysics.com/images/Robotics_-Gears_and_Gear_Ratios.pdf 14. Adafruit (2016). All about Stepper Motors. Retrieved from: https://learn.adafruit.com/all-about-stepper-motors/types-of-steppers. 15. Energypedia.info (n.d.). Charge Controllers. Retrieved from: www.polarpowerinc.com/info/operation20/operation25.htm#2.5.2 16. Greivenkamp 2004, p. 14 Hecht 1987, §6.1 17. "Chapter 8 – Measurement of sunshine duration" (PDF). CIMO Guide. World Meteorological Organization. Retrieved 2008-12-01. 18. Pettit, R. B., and E. P. Roth (1980). Solar Mirror Materials: 19. Their Properties and Uses in Solar Concentrating Collectors. Solar Materials Science, L. E. Murr, ed., p. 171, Academic Press, New York. 20. Davis, A. & Kuhnlenz (2007). Optical Design using Fresnel Lenses. Retrieved from: http://www.wiley-vch.de/berlin/journals/op/07-04/OP0704_S52_S55.pdf 21. "Radiant energy". Federal standard 1037C George Frederick Barker, Physics: Advanced Course, page 367 22. Hardis, Jonathan E., "Visibility of Radiant Energy". PDF.	**4391-4396**
762.	**Authors:**	**Atul Gupta, Krishan Kumar Goyal**	
	Paper Title:	**Classification of Semantic Similarity Technique between Word Pairs using Word Net**	

Abstract:The concept of relevancy is a most blazing topic in information regaining process. In the last few years there is a drastically increase the digital data so there is a need to increase the accuracy of information regaining process .Semantic Similarity measure the similarity between word-pair by using WordNet as ontology.We have analyzed the different category of semantic similarity algorithm to compute semantic closeness between word-pair and evaluate its value by using WordNet.We have compared various algorithms on Miller- Charles data set of 30 word-pair is used to rank them category wise.

Keyword: Semantic similarity,Semantic closeness,WordNet,Least common subsumer

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763.

Authors: **Ivan Brak, Vlada Rusina**

Paper Title: **Navigation Environment In A Medical Institution: An Eye-Tracking Examine**

Abstract:Navigation and wayfinding are well-known issues that people face in their life every day. In many situations, and especially in the case of medical facilities, it is vital that users find the desired destination quickly and successfully. This is not only about comfort, but also about life and health safety. In this regard, the development of an effective navigation system becomes an extremely important mission for health care institutions. Therefore, the eye-tracking technology, which makes it feasible to look at the problem through visitor's eyes, appears to be a pertinent tool for an objective assessment of the existing navigation, as well as finding ways to optimize it. This article considers present approaches to the analysis of navigation systems dealing with a large number of clients and describes our visual navigation study conducted in a health center. The first part of our study included the current navigation environment evaluation and the decision-making points detection, serving as a starting point for the implementation of a new, user-oriented navigation in the medical center. In the second part of the study the effectiveness of the applied system was confirmed. The results obtained show that navigation environment improvement can significantly reduce users' time to reach the goal, as well as length of their route. Thus, we managed to apply the eye-tracking method to the improve user experience in a medical establishment.

Keyword:eye-tracking, navigation, user experience, wayfinding.

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764.	**Authors:**	**Shrikant J. Honade, Ruchita Ingole**
	Paper Title:	**Image Water-Marking/De-Watermarking using Spatial Domain Technique**

Abstract:There are various existing techniques for cryptography and watermarking. The multimedia data security can be achieved by means of encryption and decryption i.e. cryptography. While watermarking is employed for hiding multimedia data using images. The proposed work focuses on the new method combining these strategies for producing effective solution to improve security of secrete multimedia data. In the proposed dissertation work the images will be used as multimedia data. The proposed method involves the encryption of data to be hid. The cover image is then used as the media for hiding encrypted data. The encrypted data combined with cover image is treated as embedded image. The embedded image then compressed using wavelet transforms compression.

Keyword: Multimedia security, watermarking, encryption, data hiding and image compression.

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765.	**Authors:**	**Alex R Mathew**
	Paper Title:	**Fog Computing-Security Platform for IoT and Cloud in-Healthcare System**

Abstract:The introduction of cloud computing has revolutionized business and technology. Cloud computing has merged technology and business creating an almost indistinguishable framework. Cloud computing has utilized various techniques that have been vital in reshaping the way computers are used in business, IT, and education. Cloud computing has replaced the distributed system of using computing resources to a centralized system where resources are easily shared between user and organizations located in different geographical locations. Traditionally the resources are usually stored and managed by a third-party, but the process is usually transparent to the user. The new technology led to the introduction of various user needs such as to search the cloud and associated databases. The development of a selection system used to search the cloud such as in the case of ELECTRE IS and Skyline; this research will develop a system that will be used to manage and determine the quality of service constraints of these new systems with regards to networked cloud computing. The method applied will mimic the various selection system in JAVA and evaluate the Quality of service for multiple cloud services. The FogTorch search tool will be used for quality service management of three cloud services.

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Keyword:cloud computing, quality of service, cloud services, FogTorch.

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766.

Authors: **Alok Ranjan Mahananda, B. K. Pal**

Paper Title: **Application of Foam Stopping for Mitigation of Spontaneous Heating In Underground Coal Mines**

Abstract:The problem of spontaneous heating is a major threat to safety and productivity in mines all over the world. In India, more than 80% of fires are caused due to Spontaneous Combustion. The applicability of inert gases is expensive, time-consuming and is a very tedious process. Hence the application of advanced technologies becomes essential to be introduced in mines. In this context, Central Mine Planning and Design Institute (CMPDI), Ranchi, India carried out an R&D project entitled "Construction of quick setting stopping in case of fire in an underground mine using expansion foam agent" under the funding from the Ministry of Coal, Government of India.

Under this project, two Indian mines were selected in consultation with MCL for carrying out the proposed work in Orient Mine No.3 and Bundia Mine of MCL (Ib Valley AREA). Coals from both the mines have been collected and analysed in the laboratory. The proximate analysis and CPT/IPT results show that both the coals are moderately prone to spontaneous heating. Considering both intrinsic and extrinsic properties, two stoppings were constructed in the Hirakhand Bundia mines and four in orient mines. Periodic supervision along with the altering ingress of air from intake was been checked. After careful supervision of nearly 4 years, the stoppings proved to be strong enough to be leakage proof. This paper describes the application of foam technology as stopping to avoid air entry, thus preventing the occurrences of spontaneous heating/fire in a panel of Indian coal mines.

Keyword:CPT Analysis, Foam Technology, Proximate Analysis

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Authors: **S.Lakshmi, Ishwarya Srikanth, M. Arockiasamy**

Paper Title: **Identification of Traffic Accident Hotspots using Geographical Information System (GIS)**

Abstract:Limiting the number andseverity of traffic accidents is one of the major goals of road traffic safety management.The alarming rate of road accidents globally emphasizes the importance of an effective traffic safety management system. Identification of accident hotspots is the first step towards implementation of efficient traffic safety management.Until the arrival of Geographical Information System (GIS),traffic accident analyses have been performed based ontraditional statistical methods alone. The advent of GIS-based techniques has led toimproved traffic accident analysis by employing spatial statistics,enabling engineers and researchers to account for variation in the spatial characteristics of hotspot locations in the analysis. This paper discusses the different spatial and statistical methods that are employedintraffic accident hotspots identification. An example application of Planar Kernel Density Estimation (PKDE)for hotspot identification is presented based on crash data for Des Moines city of Iowa state. The effect of varying bandwidths in creating density mapsis investigated and the optimum bandwidth to obtain distinct hotspots is identified as 500 m for the chosen study area.The paper also discusses the scope for future research in traffic accident hotspot analysis.

Keyword: Accident analysis, GIS, Hotspots, Spatial methods,Statistical tools.

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Authors: **Nilofar A. Shekh, Ved Vyas Dviwedi, Jayesh P. Pabari**

Paper Title: **RF Propagation Model for Wireless Sensor Network of MARs**

Abstract:NASA exploration mission on Mars includes the use of rovers and sensors communicating via wireless sensor networks. The network components have a limited range of transmission, low power consumption, low price and a small lifespan. A wireless network's performance is mainly dependent on the RF environment. A Wireless Sensor Network (WSN) on the Mars ground is planned to deploy wireless sensors capable of operating under harsh environmental conditions to detect few properties of regolith on the Martian surface. The main interest property is dielectric permittivity and permeability. Since communicating on the Mars is a difficult and challenging task, the behavior of communications surfaces can be predicted by a channel model. So, efforts have been put to Develop a channel propagation Model to know the behavior of communication channel on the atmosphere of Mars. In order to study the model for radio propagation on Mars, two sites were selected from Gale crater and Meridian Planum at different sites for the Mars with near-flat surfaces, a certain area with peaks and a region with few craters.

Keyword: Hematite, Mars, Site Coverage, Wireless model

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Authors: **Kunal J. Dutt, Seema B. Joshi**

Paper Title: **Defending Against Sybil Attacks by Enhanced Event Based Reputation System in Vanet**

Abstract:In earlier times, vehicles were the realm of mechanical & automobile people, but with proliferation of computer technology & electronic components, vehicles are becoming "Computer on Wheels". These technology lies in VANET (Vehicular Ad-Hoc Network) environment.

VANET has various road safety applications, with the aim of communication interoperability between cars. In VANET, Sybil attack have been reckon as a major threat, by creating illusion or traffic congestion, it may lead mass destruction. Previously Event Based Reputation System (EBRS) named technique has been used to defend this Sybil attacks, but there was one major drawback that they were not considering RSU and TA modules security. For these both modules assumption has been made that it cannot be compromised thus it is trustable. But in this way VANET environment cannot be established thoroughly .In this paper we proposed enhance Event Based Reputation System to defend Sybil attacks in VANET environment, which is going to eliminate that major assumption by considering RSU and TAs security mechanisms.

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Keyword:EBRS, Sybil attack, Sybil in VANET, VANET, VANET Security,

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Authors: **Banashree Debnath, Indranil Sarkar, Srabanti Chakraborty, Rajesh Dey, Sandip Roy**

Paper Title: **Correction of Load Cell Output using Particle Swarm Optimization**

Abstract: A load cell is a type of force transducers that transform force and mechanical stress into electrical signal. But the output becomes distorted due to the presence of transient response. Particle Swarm Optimization (PSO) based correction of load cell output is presented this paper. PSO is a robust stochastic optimization technique that considers a swarm of particle (data) as its search space and looks for the best solution. The current approach optimizes a load cell output based on the median value of the signal. The optimization algorithm tries to bring the output response near to the median value.

Keyword: Artificial Neural Network (ANN), Damper System, Mass Spring Damper (MSD).

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Authors: **Suraj R. Karpe, Sanjay A. Deokar, Arati M. Dixit**

Paper Title: **Hardware Implementation of 15-Level Cascaded Multilevel Inverter using Pic16f877a**

Abstract:Multilevel inverters can manufacture a high- power, high- voltage inverter with a multilevel structure

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to control the voltage of the device. A symmetrical multilevel cascaded standard inverter requires 'n' DC sources for' 2n+1' levels that require isolated DC sources for power conversions. The objective of this paper is to increase the number of levels by reducing the number of dc sources. The proposed scheme is to use a multilevel asymmetrical inverter with a separate DC power supply. The analysis is extended to the use of the single DC power source with the remaining ' n-1 ' DC source being a capacitor and simultaneously maintains the capacitor 's DC voltage level and selects a fundamental frequency switching pattern to produce an almost sinusoidal output. Matlab simulink simulation is performed to verify the performance of the Asymmetrical Multilevel Inverter using isolated Dc source. The results of simulation and hardware are presented and discussed in this paper.

Keyword:MATLAB, Optimization Angle Control, Asymmetrical Multilevel Inverter, Symmetrical Multilevel Inverter

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Authors: **Grantej Vinod Otari, Vijay Ram Ghorpade**

Paper Title: **Dynamic Trust Management for Community Based Mobile Grid Application**

Abstract:Mobile Grid is the inter-networking of heterogeneous physical as well as virtualdevices. Each device transfer and share the information with each other. Trust management plays a significant role in network based applications for information collection, data mining, qualified services with context-awareness, upgraded client protection and data security. It assists individuals with beating impression of vulnerability, threat and participates in client acknowledgment to utilization on grid services and applications. In this paper a unique trust management protocol is proposed for network based mobile grid application to manage misbehaving nodes whose status or performance may change dynamically. Trust plays an important role for handling the security in the community based system. Trust management provides facilitate to identify malfunctions and also make legitimate collaboration and enhance the user privacy and information security.

Keyword: Trust Management, Dynamic trust management. Grid network.

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Authors: **Vishal Walia, Rahul Malhotra**

Paper Title: **Detection and Prevention of Manet using Hybrid SVM with Ann**

Abstract:Mobile Ad hoc Networks (MANET) have been exceptionally vulnerable against attacks because of the dynamic and self-configurable nature of its system foundation. This kind of wireless network is appropriate for temporary communication linked due to its nature of less-foundation and there is no any control of centralized manner. Design a routing mechanism that are security aware with higher QoS parameter is very competetive and the major tasks involved in ad hoc types of network as per the limited power resources and their dynamic routing topology. This paper mainly focused on the design of a secure and trusts based on-demand routing mechanism using Ad-hoc on demand distance vector (AODV) protocol to compute trust-based produces path initialed from source up to destination that will fulfill minimum two end-to-end QoS parameters of network. So here, the generalized AODV routing protocol has been extended from traditional routing mechanism to analyze the performance of this model with combination of artificial intelligence concept. The proposed ad hoc based routing mechanism is used to found possible routes that are prevented through trust adjacent position of security validation protocols and enhanced link optimized route computes on the basis of Artificial Neural Network (ANN) as an artificial intelligence algorithm for well-organized communication in MANET. In addition, this research demonstrates the effectiveness of bio inspired Firefly Algorithm (FFA) as an optimization approach with the consideration of several performance QoS metrics of network. The results have been measured in terms of throughput and PDR with SVM and ANN approach. It has been observed that the throughput and PDR measured using ANN approach is better compared to SVM approach an average of 0.755 PDR value has been obtained using ANN approach.

Keyword: Mobile Ad hoc Networks, d-hoc on demand distance vector, Artificial Neural Network, Firefly Algorithm, SVM, and PDR.

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Authors: **Polaiah Bojja, Sai Charan Reddy Potluri, Vempati Ramya Reddy, D S K S V L S N S Prema Sri**

Paper Title: **Enhanced Detection of Diabetic Retinopathy using Advanced Filters**

Abstract:Nowadays in India, diabetic patients are more increasing. The major issue with diabetic patients is Diabetic retinopathy which causes the loss of vision. For the ophthalmologist, it is very difficult to identify the diabetic retinopathy because of the low resolution of the eyes. For the specialists, it is easy to find the blood vessels in the retina to diagnose the many populations in a very short time. Various existing methods are used to find the abnormal retinal images of diabetic patients based on their image features. But the results are not that much accurate. In this paper, an enhanced image filter with local entropy thresholding for blood vessel extraction under different normal or abnormal conditions is proposed to improve the performance of the patient information.

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Keyword: Diabetic retinopathy, Optimized filter, Local entropy thresholding.

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Authors:	**Vidya M., P. Pramila, A. M. Nagaraj**
Paper Title:	**DSTATCOM for Harmonic Mitigation in Distribution Lines using Two-Level Inverter**

Abstract:Distribution systems have been facing serious problems of harmonics load current mainly due to advancement in power electronic based and other non-linear loads. The DSTATCOM has been widely used to mitigate the load current harmonics problems in distribution system. The power quality improvement is one of the major problems when the distribution side load increases with non-linear loads like electric vehicles, laptops, PCs etc., There are some power quality mitigation technique available at the load side where the electronic chargers works with unity power factor (UPC) control. But many DC loads are connected without the UPC. So, it is a need for a device which corrects the real and reactive power at the distribution level. The DSTATCOM is connected to the Indian distribution system with 415V, 50Hz. In this paper the linear loads and nonlinear loads are coupled to the system and analysis with DSTATCOM and without DSTATCOM cases are presented.

Keyword:DSTATCOM, Distribution systems, Unity power factor control, non-linear loads.

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Authors:	**B. Srinivasa Rao, N. Sowjanya, M. Bhaskararao, S. Nagaraju**
Paper Title:	**Esa Based Upqc Controller to Improve Power Quality in Microgrid System**

Abstract:Generally, Power Quality is the main concern parameter in present power system scenario, the main causes for effecting the power quality is due to either harmonic distortion, voltage imbalances, reactive power variations. There are many techniques applied to maintain this power quality in literature. In Facts family, the UPQC controller plays a key role, because it uniquely controls all the transmission parameters. The UPQC controller is combination of series-shunt converters with common dc link. The signals required for these converters are generated by reference and actual signals of bus and dc link capacitor. Phase locked loop helps to provide the phase angle sequence required to improve power factor. In addition with, this paper is implemented

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with extended search algorithm to better control the dc link voltage for improving power quality. Mat lab/Simulink is used to test the system conditions and performance.

Keyword: Micro grid System, Power Quality, Extended Search Algorithm, Unified Power Quality Conditioner.

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Authors:	**N. Syuhada Nasir, N. Ab Wahab, R. Izamshah, H. Sasahara, M H Hassan**
Paper Title:	**Optimization of CFRP Micro Drilling Parameter using 2-Level Factorial Method Towards Thrust Force**

Abstract:Carbon Fiber Reinforced Polymer (CFRP) is extensively used in aircraft and automotive industries due to it exceptional material properties such as high strength to weight ratio and corrosion resistance. Nevertheless, micro drilling process of CFRP material poses various challenge as it has irregular material properties along the structure. High cutting force which lead to poor hole quality is one of the issues that always occur when drilling this material. Hence, the understanding on the relationship between process parameter and material behavior is vital to achieve optimum performance of machining process. The experiment was carried out using 2-level factorial design with variable spindle speed range of 8,000 – 12,000 rpm and feed rate range of 0.01-0.015 mm/rev. Micro drill bit with diameter of 0.9 mm was used and new fresh drill were used for every run to avoid tool wear effect. As a result, lower thrust force of 6.3742 N is obtained from the combination of spindle speed 10k rpm and feed rate 0.0125 N. Therefore, it can be concluded that, optimum parameter falls between the range of 8,000 – 12,000 rpm of spindle speed and 0.01-0.015 mm/rev of feed rate. Validation of the optimum parameter suggested from 2-level factorial which are 8,000 rpm and 0.01 mm/rev is executed. The final result obtained shows 4.5% of error from targeted value and this result is absolutely acceptable and portray the reliability of the experiment.

Keyword:CFRP, factorial, micro drilling, thrust force

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Authors:	**Krunal Bhavsar, Vrutik Shah, Samir Gopalan**
Paper Title:	**Machine Learning: A Software Process Reengineering in Software Development Organization**

Abstract:BPR (Business Process Re-engineering) is an organizational mechanism that improves the organizational ability in responding to the challenges of qualitative result by change management and improvement in software engineering processes, productivity, product quality and competitive advantage. BPR inherits, explores and implements the building of process change, to incorporate enhancements to the essential considerations and protocols of (SEM) Software Engineering Management. Machine Learning (ML) can be the

key aspect for BPR in software development organization. The goal of this research study is raising the conceptual vision about integration of automation technology like ML and its life cycle development within Software Development Life Cycle (SDLC) of the software product and highlights benefits and drawbacks ML techniques in SPM (Software Project Management), and how to implement ML in standard SEM practices. We have attempted the introduction of machine learning in SEM to determine specific performance and tasks reuse using empirical analysis and discussion on implementation of ML algorithms. The empirical study of software technologies includes control structure of an autonomous software application. In current era, ML imparts consistently promising accuracy in some SEM fields. The goal of this paper is an empirical and analytical study and literature review to propose desired level of quality software, through the comparative evaluation of existing processes and their respective support for Software Quality Engineering (SQE).

Keyword:AI - Artificial Intelligence, ML – Machine Learning, SEM – Software Engineering Management, BPR - Business Process Reengineering, SE - Software Engineering, BPM – Business Process Management, SPM – Software Project Management

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Authors: **Subash Thanappan, Bharath A L, Aravindhraj M, Sakthi Ganesh G, Dumesa Gudissa**

Paper Title: **Environmental Quality for EIA**

Abstract:Now a day, Environmental degradation is a global level issue and very serious threat to eco-system. Hence analyzing the environmental quality becomes mandatory to overcome the various types of environmental pollution. Hence, EIA becomes compulsory in almost more than 29 countries to execute any of the proposed activities like the construction of dam structures, mining works, construction and execution of industries etc. Analyzing the existing environmental condition of the proposed study area is very important as a part of EIA. The current study have been conducted for analyzing the air quality at a Industrial City in South India due to the Huge human settlements, the subsequent development of Urbanization through Deforestation, Colonization, Industrialization and Transportation, and in turn, to ascertain the increase in pollution level. The emissions through Area sources were identified and the environmental quality has been determined through a specific technology transfer – Environmental Evaluation System (EES) with the assigned parameter importance units.

Keyword: Area source, EIA, Emission factors, Emission Inventory, Parameter Importance Unit

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Authors: **B. Kranthi Kiran**

Paper Title: **Implementation of Tumor Prediction System using Classification Algorithms**

Abstract:As the huge volume of healthcare data was being unused, recent researchers were focused on predicting the many diseases by analyzing the past patient records. In continuation with that, there are lot of researches focused on predicting the tumor on the human body. In this research, two widely used classification algorithms called Naïve Bayes and Random tree were considered for implementation and analysis with the UCI Machine learning Tumor data set. The data cleaning technique called "Replace Missing Values" in the WEKA tool has been considered for cleaning the data. The implementation has been done with the original dataset and the cleaned dataset. Finally, it is found that the Random tree algorithm is performed well with improved accuracy and reduced error rate. The accuracy obtained before data cleaning is 90.8333% and after data cleaning is 93.3333 %. Similarly, the error rates were reduced reasonably and they are 9.1667 % before data cleaning and 93.3333 % after data cleaning. In future, the data cleaning techniques has to be tuned well to improve the accuracy further.

4507-4511

Keyword: Data Cleaning, Naïve Bayes Algorithm, Random Tree Algorithm, Tumor Prediction and Classification.

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Authors: **J. Santhosh Reddy, Santosh Sonar**

Paper Title: **Closed Loop Control of Multilevel Dc-Dc Boost Converter**

Abstract:This paper presents a multilevel DC-DC boost converter (MBC). It is derived from a conventional boost converter just by adding (2N-1) number of capacitors and same number of diodes in order to obtain N levels of output voltage. Its key feature is to convert low input DC to a high output DC at various levels. This feature makes it a suitable candidate for renewable applications like photovoltaic (PV) system, fuel cell system etc. This paper presents a mathematical model of a N level boost converter. Effect of series resistance (ESR) in inductor is analyzed. A closed loop system for a three level MBC is developed and corresponding simulation results are presented.

Keyword: Multilevel DC-DC boost converter (MBC), PV system, fuel cell system, ESR.

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782.	**Authors:**	**Budi Rahmani, Agus Harjoko, Tri Kuntoro Priyambodo, Hugo Aprilianto**	
	Paper Title:	**Early Model of Vision-Based Obstacle Mapping Utilizing Grid-Edge-Depth Map**	
	Abstract:This paper described a new method of obstacle mapping in an indoor environment utilizing a Grid-edge-depth map. The Grid-edge-depth map contained the information of distance and relative position of the object in the front of the robot. This mapping method utilized this information to mark off the visible obstacle/s in a particular virtual map. The 2D map created as a representative of the environment using a 300 by 500 pixels image. Every pixel represents a one by one cm of the environment and the obstacle's size. The obstacle's size was 30 by 30 pixels when it mapped by the system. It was a fixed size in the mapping process since the system cannot calculate the dimension of the detected obstacle. If the obstacle detected, the system checked its distance in GED-map. Then the system calculated the obstacle's position against the goal, and finally map it in the 2D map. In this case, the proposed method in building a 2D map of the obstacle in the indoor environment combined with the rules to decide the direction of the mobile robot. The rules used to avoid the collision to the obstacle. The evaluation of the method showed that the system could map the detected obstacles, the initial position, and the goal's relatif distance and position. The robot also reaches the goal position while avoiding the collision to the obstacle. **Keyword:**GED-map, Map building, Mobile robot, Stereovision, distance **References:** 1. B. Rahmani, A. Harjoko, and T. K. Priyambodo, "Grid-edge-depth map building employing sad with sobel edge detector," *Int. J. Smart Sens. Intell. Syst.*, vol. 10, no. 3, pp. 551–566, 2017. 2. B. Rahmani, A. Harjoko, and T. K. Priyambodo, "THE ACCURACY IMPROVEMENT OF OBJECT'S DISTANCE MEASUREMENT BASED ON GRID-EDGE-DEPTH MAP IN THE DETERMINATION OF WHEELED ROBOT'S DECISION OF DIRECTION," Universitas Gadjah Mada, 2019. 3. B. 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783.	**Authors:**	**Frans Romi Pelleng, Budi Susetyo, Djiptogoro Dinarjo Soehari**	
	Paper Title:	**Model Health, Safety and Work Environment Factors as Prediction of Work Motivation on Construction Projects**	
	Abstract: Construction project work is one of the high-risk jobs. Based on statistical data on construction accidents in the last ten years, it continues to increase, which has an impact on decreasing work productivity and at the same time a threat to the health, safety and environment of the workforce. Efforts to increase awareness of Health, Safety and the Work Environment (HSE)for workers are important to provide encouraging attitudes and safe actions in preventing the risk of accidents and diseases caused by work, thereby increasing worker productivity.Motivation is a form of encouragement from within the employee to behave and act. The	**4524-4528**

productivity of a construction project is closely related to the motivation of the workforce.The purpose of this study is to determine an effective model of health, safety and work environment (HSE) and to know the relationship between HSE factors as a prediction of work motivation to prevent the risk of work accidents.The research method used was a questionnaire survey distributed to 35 construction workers / contractors such as project managers, experts, project implementers, foremen and construction workers in buildings with more than five floors.Data were analyzed using Partial Least Squares. Work accidents affect HSE workers, which then makes work activities delayed, work costs increase, even the quality of work decreases. Therefore, efforts are needed to prevent work accidents through work motivation as psychological interventions in understanding HSE factors for increasing worker productivity on construction projects.The results of this study confirm that the worker's health factors are able to predict work motivation and work motivation in stages of work productivity, meaning that the better the health of workers will increase work motivation and the higher the work motivation, the higher work productivity. Work environment factors indirectly have a positive effect on work productivity, meaning that the better the work environment, the higher the work productivity through work motivation.

Keyword: Health, Safety and Work Environment, Work Motivation, Partial Least Squares, Productivity.

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Authors: **T.Sampath Kumar, B.Manjula**

Paper Title: **Perusing on Cloud Computing and its Security Issues**

Abstract:This paper examines the figuring of cloud and imposing security over information in the available cloud data by investigating information over cloud and its viewpoints that are identified with every possible security. It provides subtleties of information to impose security policies and approaches that are utilized through the world to provide assurance of extreme information by reducing dangers. Accessibility of information in the

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cloud is productive for a number of applications that exists and presents information over various applications that required security provisions by utilizing virtualization over distributed computing that may become hazard information when a visitor OS is implemented over a hypervisor without possessing the firm quality of visitor OS which may comprises of security provision in the cloud.

Keyword:the available cloud data by investigating information over cloud and its viewpoints that are identified with every possible security

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3. https://en.wikipedia.org/wiki/Virtualization
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5. A Multilevel Encryption Technique in Cloud SecurityBappaditya Jana, Jayanta Poray &Tamoghna Mandal, Malay Kule
6. Ensuring Data Storage Security Through A Novel Third Party Auditor Scheme In
7. "Cloud Computing"" Shuai Han& Jianchuan Xing
8. Data Privacy in "Cloud computing"Ahmed EL-Yahyaoui, Mohamed Dafir Ech-Chrif& EL Kettani
9. Security and Privacy in "Cloud computing": A SurveyMinqi Zhou, Rong Zhang§, Wei Xie, Weining Qian, Aoying Zhou
10. PracticalTechniquesforSearchesonEncryptedDataDawnXiaodongSongDavidWagner AdrianPerrig
11. Public Key Encryption with Keyword Search from LatticesChunxiang Gu, Yan Guang, Yuefei Zhu, Yonghui ZhengZhengzhou
12. Fuzzy Keyword Search over Encrypted Data in "Cloud computing"Jin Li, Qian Wang , Cong Wang, Ning Cao , Kui Ren , and Wenjing Lou
13. Privacy-Preserving Multi-Keyword Ranked Search over Encrypted Cloud DataNing Cao, Member, IEEE, Cong Wang, Member, IEEE, Ming Li, Member, IEEE,Kui Ren, Senior Member, IEEE, and Wenjing Lou, Senior Member, IEEE
14. Zerber: r-Confidential Indexing for Distributed Documents Sergej Zerr1, Elena Demidova1, Daniel Olmedilla1, Wolfgang Nejdl1, Marianne Winslett2 and Soumyadeb Mitra21L3S Research Center University of Hannover Hannover,
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Authors: **N.Meenakshi, B.SarathBabu, N.Suresh**

Paper Title: **Reactive Extraction of levulinic acid using tri-n-Octylamine in 1-hexanol**

Abstract:Reactive extraction of levulinic acid using tri-n-octylamine (TOA) in 1-hexanol was investigated by physical and chemical extractions from aqueous solution at room temperature. Using the equilibrium data, the distribution coefficient (KD), extraction efficiency (E %), loading ratio (Z), stoichiometric loading factor (ZS) and modified separation factor (Sf) are evaluated. It was observed that chemical extraction provided a better yield than physical extraction. A maximum KD was obtained as 10.715 using 40% TOA (0.9059 mol/L) while 91.46 % of the levulinic acid was extracted. By increasing the initial concentration of levulinic acid resulted in a decrease of KD and E%. The KD and E% increased by increasing the TOA concentration from 10 to 40 % (0.2264 mol/L to 0.9059 mol/L).

Keyword: Reactive extraction, Levulinic acid, 1-Hexanol, Tri-n-octylamine, Equilibrium

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786. **Authors:** **P.Avinash, M.Kavitha, G Swamy, B.Pradeep Kumar**

	Paper Title:	**Experimental Analysis in Cloud Computing for Wireless Sensor Networks**	
	Abstract:Wireless sensor network (WSN) Is an obvious improvement for pretty some time. In most actual applications, the giant percentage of information collected the use of sensors are required to be taken care of and be made available for at some thing detail, anyplace get to. Despite the fact that, WSNs are produced from gain obliged devices which nonattendance of capacities to keep large piece of records and carry out resulting getting prepared of the information. WSNs can be advanced with the resource of cloud scenario which gives such agencies. In this way, a Sensor-Cloud shape is expected in this advice planning far flung sensor interface with cloud circumstance. The organized framework is appropriate for adaptable and unavoidable figuring packages attractive net of things (IoT) and intended for use in certifiable programs. Making worldwide places want proportionate social protection motion solutions for serve massive hundreds. This advice includes the problems related to restorative administrations movement that can be tended to using the consolidated framework. It can be used for appealing humans, systems, recuperation administrations courting to build up and transmit prosperity statistics as and at the same time as required if you want to enhance social protection organizations for the not unusual and concrete masses. Within the IoT engaged shape, barely any stressful conditions are perceived for assessment. This speculation weights on issues together with a ways flung sensors and gives unique responses for the ones worrying conditions. WSNs generally chip away at IEEE 802.15.4 elegant the use of selective suggests which incorporates shape and the board capriciousness even as joined with internet. This proposition clothes answer for prepare sensor thoughts-set with cloud situation which is predicated upon internet. Execution of 6LoWPAN based totally totally completely center factors allows ordinary correspondence over the frameworks collectively with internet.	**4540-4546**
	Keyword:WSNs can be advanced with the resource of cloud scenario which gives such agencies. In this way, a Sensor-Cloud shape is expected in this advice planning far flung sensor interface with cloud circumstance.		
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	Authors:	**Revathi Lavanya Baggam, P. Vamsi Krishna Raja**	
	Paper Title:	**Controlling Analysis of Breast Cancer Under the Application of Data Mining**	
787.	**Abstract**:In the present period, tremendous measure of information is being delivered by numerous sources, for example science, business, prescription, sports, geology, condition and so forth. This produced information is in unstructured, huge estimated and crude arrangement, subsequently very little helpful. Thus, the need emerges for certain systems with which, the valuable information can be separated. Information mining separates the helpful information from huge databases. It manages extraction of understood, already not known and conceivably helpful data from information. It additionally requires programs that recognize regularities and examples in the information. In past years, AI systems have been effectively utilized for a wide scope of genuine application situations. Breast malignant growth is probably the deadliest ailment, is the most well-known everything being equal and is the main source of disease passings in ladies around the world. The arrangement of Breast Cancer information can be helpful to foresee the result of certain illnesses or find the hereditary conduct of tumors. Beginning period treatment serves to curebreast malignant growth as well as help in avoiding its repeat. Information mining calculation can give incredible help with the forecast of beginning time breast malignant growth that consistently has been testing research issue. The proposed research will recognize the best calculation that is utilized to anticipate the repeat of the breast malignant growth and improve the exactness the algorithms.	**4547-4551**
	Keyword:breast cancer, BCW, CART		
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Authors: **Kalli Srinivasa Nageswara Prasad, M.V.Vijaya Saradhi**

Paper Title: **Work-Life Balance Analysis Score Model**

Abstract:Most of the companies are finding innovative ways to provide work-life balance to employees. Some of the measures creches for their children, flexible work timings, paternity leaves among others. Some of the companies are looking at technology to provide a better work-life balance. With the increasing need for a more integrated model of analyzing the work-life balance, in this manuscript, a contemporary model of machine learning-based work-life balance score analysis system is proposed, which indicates potential performance over the training and test pattern used for analysis. Though the scope for improving the accuracy of the system exists, still in terms of the pragmatic application of the model, it can be stated that the model is effective and has a scope of implementation over the real-time conditions.

Keyword: Work-Life Balance, Machine learning in work-life balance, ML-WLBI, Neal Whitten Work-Life Model.

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Authors: **Sirisha K L S, M. Chandra Mohan**

Paper Title: **Adaptive Random Testing for Composite Webservices**

Abstract:Utilization of the Internet management in Service Oriented Architecture (SOA) is creating in the remaining lanes are no longer many years.The nature clean administration and procedures is essential to the success of SOA applications and try is both broad affirmation. Today tried the strategy in the SOA web administration will not last inspection technique computerized check results. In this exploration, Adaptive Random Testing for Object Oriented (Artoo) proposed in SOA to improve survival through mechanization we see the results of affirmation. Separation metric imaginable between items in the Adaptive Random Testing (ART) for mechanization try articles set programming. The proposed strategy is classified in the framework of state financial institutions to break up the flow of survival. The proposed approach was investigated as far as locating and deficiencies in handling time. shows the proposed method shows the adequacy deficiency findings and the reaction time is estimated as 3ms.

Keyword: Adaptive Random Testing for Object Oriented, distance metrics, Service Oriented Architecture, testing methods and test result verification.

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Authors: **V. Chandra Jagan Mohan, M Laxmidevi Ramanaiah, Salava V Satyanarayana**

Paper Title: **Design of Res Based Pv-Wind Generation System for Microgrid System**

Abstract:Power expansions of network to disconnected areas are related with specialized and affordable issues. To examine the power Renewable Power Sources (RES) are used. In this paper, the design of RES based PV based wind generator is proposed. Here voltage source converter is used in the autonomous small scale applications. The both battery energy storage system and the diesel generator will produce the operation as fast as possible compared to other blocks. The main advantage of this system is control the system without any interpretations. AC source is obtained because of the proposed Distributed Generation set acts as an AC source. By utilizing fluffy rationale controller in this framework, to decrease the deviations in the waveforms. A wide assortment of matlab/simulink reproduction results is introduced to exhibit every one of the highlights of the proposed framework.

Keyword:voltage source converter (VSC), battery energy storage system (BESS), diesel generator (DG), renewable energy sources (RES).

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791.	**Authors:**	**Naga MalleswaraRaoPurimetla, Jaya Rama Krishnaiah V. Vemula**	**4572-4577**
	Paper Title:	**A Most Efficient Health Care (HC) Based Algorithm for Prevention of Brain Disease Facets in Data Mining Applications**	

Abstract:Nowadays the use of data mining has been increasing rapidly in many areas like research applications, medical applications, healthcare applications, etc. The data mining applications really providing great applications for all areas due to its huge amount of data related to different types of data which was related to different types of areas in the storage servers, one of the problem with this mining applications is how to get the relevant data from the huge amount of data, many research and development applications are providing different types of solutions to retrieve the data from the mining. Once data was retrieved from the servers the users easily can solve their problems from their homes, for example, online doctor’s information systems. In the olden days when the information technology is not vastly distributed the patient doesn’t know the doctor's availability the success percentage of doctor treatment, how many doctors are available in their city, etc. This manuscript was proposing the algorithm for the healthcare system which is called query facets algorithm, which can fetches data from the server based on the query.

Keyword: Attributes, Objects, Choice support, Traumatic cerebrum wounds, Apache hive Symbolic information investigation, Informatics, Data mining.

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792.	**Authors:**	**K. Mohanram, Sardar Inderjeet Singh**	**4578-4583**
	Paper Title:	**Deep Image Based Iterative Rendering Scheme for Security**	

Abstract:In this paper proposing an implementation of image compression technique for the purpose of security. The proposed system is an algorithm which can provide security as well as compression operations simultaneously. This method is mainly applied on the binary images and gray scale images. The image compression gives a good scan path using least bits. It divides the images into corresponding bit planes. Here a key is obtained using encryption and this provides security for our system in effective way. Hence the proposed system produces effective results compared to other encryption techniques.

Keyword: Image compression, encryption, decryption, security.

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Authors: **Karunaiah Bonigala, P.V.Sridevi**

Paper Title: **Research of Dumbbell Shaped DGS to Enhance The Bandwidth and Multiple Band Applications**

Abstract:A monopole microstrip rectangular patch with dumbbell shape slotted on ground for multiple band, enhance the bandwidth. The proposed antenna is fabricated on FR 4 epoxy material with electrical permittivity of 4.4 and magnetic permeability 1.The dimensions of proposed antenna are 70 x 50 x 1.6 mm3 and the dumbbell shape is slotted on ground of substrate which resonates at four different frequencies 5.9 GHz, 7 GHz, 8.7 GHz and 9.7 GHz. The proposed antenna has bandwidths of 200 MHz 300 MHz, 300 MHz, 300 MHz at four resonant frequencies The proposed antenna covers 4/8 GHz C band, 8/12 GHz X band and used in radar, satellite communications. The reflection coefficient (S11), radiation characteristics, peak gain and VSWR of designed antenna are described

Keyword: Rectangular patch, Multi band, Dumbbell DGS.

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Authors: **Anki Reddy, M. Srinivasa Narayana, K.V.B.Ganesh**

Paper Title: **Strategic Research on Automated Network for HRM using Knowledge Management**

Abstract:In this paper the strategic research on automated network for human resource management using knowledge management. The main intent of HRM is to manage the people in the organizations. The proposed system gives effective and efficient outputs by ensuring the human talent based on the goals of organization. Here the main intent of KM is to compensate, trained and recruited by using human resources. RMA is used in the proposed system to improve the performance assessments in effective way. The HRM based KM provides the contribution between the people to share the knowledge. Hence the proposed system ensures the knowledge focus and reinforces the management goals in effective way.

Keyword: Human Resource Management (HRM), Knowledge Management (KM), RMA (Resource Management Agencies), Data Acquisition, Adaptation and Perfection.

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Authors: **K. Anji Reddy, R.Kiran Kumar**

Paper Title: **Next Gen Farmer: An Efficient Trust Based Recommender System for Agriculture**

Abstract:Collaborative Filtering (CF) technique is a major method among the proposal strategies. Regardless of its prosperity, despite everything it experiences a few shortcomings proportional to information meagre condition and operator cold-begin issues prompting poor suggestion precision and decreased inclusion. Trust-based suggestion ways of consolidating the additional information as of the user community conviction organize keen on co-operative separating and may be advanced in explaining such disputes. This paper will provide the best way to utilize trust with community separating to determine the disputes and develop the outcomes.

Keyword: Precision agriculture, Collaborative filtering , Effective trust, Recommender system

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Authors: **V. V. N. Reddy, S. M. Reddy,P. A. Naidu**

Paper Title: **Macro-Economic Determinants of Life Insurance Business – Empirical Evidence during 2000-01 to 2015-16**

Abstract:There is a strong link between an institutional framework of insurance sector and sustainable economic growth. Insurance business has a positive impact on economic development and vice versa. As a developed insurance market stimulates economic growth of a country, the level of its economic growth affects insurance business development in return. In India, regulatory changes commenced since mid-nineties for opening up of insurance markets to private and foreign insurers. After more than one and half decade execution of insurance sector reforms, Indian life insurance business have been witnessed the better growth. In this juncture, the present study focuses on an examination of the role of a macroeconomic environment in the development of life insurance industry in India by using time series data with regression analysis. The study finds that the savings to GDP ratio, banking sector development, expenditure on social security to GDP, gross enrolment ratio and life

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expectancy are most significant and positive factors in driving the life insurance business during the study period..

Keyword: Indian life insurance business have been witnessed the better growth. In this juncture, the present study focuses on an examination of the role of a macroeconomic environment

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Authors: **V.Sowjanya, Adusumilli Ramana Lakshmi**

Paper Title: **Research of Professional of the Classification and Segmentation of Computed Tomography Brain Images**

Abstract:Subsequent to the process of classification, the more prevalently used part in most of the applications of image processingand computer vision is the image segmentation. The entire study concerning the Computed Tomography(CT) holds image segmentation as a very essential or even an inevitable part in classifying the different kinds of tumor in the different levels. Once classification of the parts or portions in the images as tumorous and non-tumorous is over, what follows next is the process of segmentation of the tumor regions in the CT images and it is the proposed methodology that takes the entire care of these both, classification and segmentation as well. For the purpose of classifying, the Support Vector Machine (SVM) with various parts and advancement systems is placed into utilization. At the point when it adds up to arrangement and improvement, the SVM with SMO appreciates an unmistakable power over different approachs in the investigation of grouping process. Following the characterization procedure, the MRG with limit advancement satisfies the division procedure. Concerning the edge advancement, certain calculations like HS,EP, Gray WolfOptimization (GWO) and Lion Algorithm (LA) are brought into utilization. The outcomes are shown with the assistance of a wide arrangement of execution measures. The near examination as far as affectability, explicitness and precision is directed in the enhancement procedures mentioned earlier. The implementation of the proposed methodology takes place on the working platform of MATLAB.

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Keyword:the investigation of grouping process. Following the characterization procedure, the MRG with limit advancement satisfies the division procedure. Concerning the edge advancement,

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Authors: **Venkata Nagaraju Thatha, A.Sudhir Babu, D.Haritha**

Paper Title: **Research of Clustering Algorithms using Enhanced Feature Selection**

Abstract:In Present situation, a huge quantity of data is recorded in variety of forms like text, image, video, and audio and is estimated to enhance in future. The major tasks related to text are entity extraction, information extraction, entity relation modeling, document summarization are performed by using text mining. This paper main focus is on document clustering, a sub task of text mining and to measure the performance of different clustering techniques. In this paper we are using an enhanced features selection for clustering of text documents to prove that it produces better results compared to traditional feature selection.

Keyword:enhanced feature selection, text mining, clustering.

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Authors: **M. Vijayshanthi, N. Kowsalya,**

Paper Title: **A Direct Discrimination Packet Flow Based Improving Security against Reactive Traffic Attacks in Wireless Communication**

Abstract:The wireless networks is most difficult of selective filling attacks. If jammer localizations and resistance routing are left alone, both are very promising, and the service overhead is still below the real-time requirements. To propose a new Direct Discriminant Packet Flow Exploration [DDPFE] algorithm based on network utility maximization (NUM) to resolve the centralized reaction disturbance optimization problem in multi-source network without any lose to send the data. The impact of the networks is estimated through interference and combine these estimates with the ability to assign problems in this type of attacks. To overcome this type of physical-layer characterization of cryptographic primitives attacks using a Cooperative Crypto Riddle Hiding Algorithm (CCRHA) for the control channel jamming problem in-network, which takes advantage of the transfer the data using the Ad-hoc network. The resolution to detect the schema attacks and isolate the nodes for the threshold. CCRHA Presenting to find selectively invasive attackers in wireless networks. Multiple metrics are measured to detect areas of interference of the wireless network. Multi-measurement method considered Packet Delivery Ratio (PDR) and signals strength variation as parameters to detect the selective jamming attacks.

Keyword: Ad-hoc network, Cooperative Crypto Riddle Hiding Algorithm, Direct Discriminant Packet Flow Exploration, Network Utility Maximization, Reactive Jamming Attack.

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Authors: **J.Sirisha, M. Babu Reddy**

Paper Title: **An Ontology Based Expert System for Lung Cancer : OBESLC**

Abstract:Lung Cancer is the second most recurrent cancer in both men and women and which is the leading cause of cancer death worldwide. The American cancer Society (ACS) in US estimates nearly 228,150 new cases of lung cancer and 142,670 deaths from lung cancer for the year 2019. This paper proposes to build an ontology based expert system to diagnose Lung Cancer Disease and to identify the stage of Lung Cancer. Ontology is defined as a specification of conceptualization and describes knowledge about any domain in the form of concepts and relationships among them. It is a framework for representing shareable and reusable knowledge across a domain. The advantage of using ontology for knowledge representation of a particular domain is they are machine readable. We designed a System named OBESLC (Ontology Based Expert System for Lung Cancer) for lung cancer diagnosis, in that to construct an ontology we make use of Ontology Web Language (OWL) and Resource Description Framework (RDF) .The design of this system depends on knowledge about patient's symptoms and the state of lung nodules to build knowledge base of Lung Cancer Disease. We verified our ontology OBESLC by querying it using SPARQL query language, a popular query language for extracting required information from Semantic web. We validate our ontology by developing reasoning rules using semantic Web Rule Language (SWRL).To provide the user interface, we implemented our approach in java using Jena API and Eclipse Editor.

Keyword: Semantic Web, Ontology, Lung Cancer, RDF, OWL, SWRL, SPARQL.

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Authors: **Ankur Gupta, Amit Kumar Manocha**

Paper Title: **Behavioral Analysis of Various Techniques of Model Order Reduction Used in the Reduction of Large Scale Control System**

Abstract:It is very important task to study the behavior of the processes occurring in the industry. To attain this task, the knowledge of the transfer function of the system should be there. When working in robust environment, these transfer functions becomes so tedious that it becomes very difficult to obtain these transfer functions and hence affects the study of the behavior of these system. Due to this, the requirement for reduction of these transfer function becomes a necessity to analyze the behavior of foresaid systems and it becomes easy to do the desired modifications in the system i.e addition of any feature, desired changes in the behavior etc., furthermore the thing to be kept in consideration while doing the reduction in transfer function that the behavior viz. peak overshoot, settling time, steady state error of the two systems (reduced and the original system) should be approximately same, so it is prime importance that the applied model order reduction technique should provide a more accurate approximation of original higher order system. The paper presents here the different categories of model order reduction techniques that can be applied to achieve the motto of model order reduction of higher order systems. The techniques presented are categorized into the four different categories to understand them and their merits and demerits and these will help in proper selection of the model order reduction technique to obtain the most accurate reduced order approximation of large scale system.

Keyword:model order reduction techniques, state space models, transfer function models, soft computing, mixed approaches

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Authors: **Ranu Gupta**

Paper Title: **Filtering and Detection of Intima-media Thickness (IMT) for the risk of Carotid Artery Atherosclerosis**

Abstract:Ultrasound images of carotid artery in brightness mode (B-mode) are used to detect the probabilities of atherosclerosis and cardiovascular diseases. They are used to measure the intima-media thickness (IMT). Ultrasound images suffer from peculiar phenomena which creates speckle (a type of noise) on the image. The speckles present in the medical images detoriates the quality of the image. This paper presents a work which is used to remove the speckles by utilizing the local characteristics of the image in the filter named as local statistics mean variance (lsmv) filter. It is a preprocessing step of medical image processing. Conventional IMT was done by locating the far walls of the carotid artery. This can be changed by applying segmentation algorithm which could automatically detect the far walls and could measure the IMT. This paper approaches towards automatic edge detection method using Prewitt operator. The objective behind automatically calculating IMT of carotid artery is to reduce the human effort and at the same time would benefit the patient by diagnosing the patient condition. The work that is proposed is analyzed by calculating various parameters in case of despeckling (filtering) as well as segmentation method. The performance parameters show that the proposed method performs better and at the same time reduces the manual effort.

Keyword:carotid artery, intima-media thickness, lsmv filter, medical image, segmentation

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Authors: **Shubh Lakshmi Agrwal, Neelam Kumari, Vibhor Kant, Shyam S. Agrawal, Sandeep K. Gupta**

Paper Title: **Facial Gender Analysis using Gabor-DWT Feature Extraction Method**

Abstract:Facial Gender Analysis has application of specific gender entry detection, human machine interface for digital marketing, real time targeted advertisement and gender demographic analysis. The facial gender can be predicted by classification of the texture and unique edges pattern. Gabor filter can extract the edge- texture patterns on the face but has problem of high dimensionality with redundancy. For accuracy enhancement, the dimension and redundancy is needed to reduce by proposed technique as maxDWT feature optimization method. The proposed model is evaluated on real life challenging dataset of face as illumination variation, POSE, face profile, age variation and obstruction on face as hat, birthmark, moles, speckles, beard, etc. Results shows that proposed technique far better than existing state of art methods of gender prediction.

Keyword: Gabor filter, DWT, Gender prediction.

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Authors: **V.Sujatha, P.Silpa Chaitanya, N.Pavani**

Paper Title: **Identifying and Grouping Abnormalities in Medical Images using Shortest Path Algorithms**

Abstract:The majority of the patient conclusion rotates around in distinguishing variations from the norm in their particular restorative pictures. These pictures are of different kinds, likely Ultrasound, CT Scan, MRI and infinitesimal pictures like bio-synthetic slides, smaller scale organic slides and neurotic slides. Barely any irregularities are cracks, awful cells in blood, tumors, contagious recognizable proof and so on. Finding the unusual segments, abnormalities in these pictures needs aptitude by the doctor; this adept recognizable proof advances and ensures sound drug by the doctor or specialist to persistent. In medicinal infinitesimal pictures ordinary bits and strange segments are combined. None of the irregular segments are identified with strange and typical parts of picture for example deviations are dissipated among ordinary bits of picture. These deviations are absent in certain bits for explicit region in the pictures. None of these deviations are covered nor can be gathered into a solitary segment physically in the picture. Deviations can be segregated alongside typical segments of pictures. Recognizing such deviations incompletely goes under bunching. This venture recognizes deviations in Medical Microscopic pictures. These deviations can be distinguished outwardly which uncovers about the nearness of deviation however to know the level of deviation in an example picture is basic. So as to accomplish this all deviations must be associated. This task interfaces all deviations utilizing Shortest Path calculation and bunches utilizing Hierarchical Clustering calculations.

Keyword: Abnormalities, Medical Images, Shortest Path.

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Authors: **Sheeba Santhosh, A Vimala Juliet, G Hari Krishnan**

Paper Title: **Electrode System Analysis for Bioimpedance Cardiac Diagnosis**

Abstract:Electrodes and their placement play a vital role in medical diagnosis. Electrical signal in human body such as ECG, EEG and EMG etc., are the critical diagnosis parameter. Measurements of such signals are obtained by proper selection of electrode and their placement on human body surface. Electrical bioimpedance diagnoses used to detect various disorders are critically depends on type of the electrodes used and their position. In impedance measurements two electrodes are used to send electrical signal and minimum two electrodes to pick the electrical signal response on tissues in terms of voltage across two terminals. In this paper different electrode systems used for bioimpedance cardiac monitoring are analyzed based on the type of electrodes used, location of electrodes in human body and positioning of electrodes in specific location.

Keyword: Bio-impedance cardiograph, electrode system, Ag-AgCl electrode, Signal generator and Low frequency.

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Authors: **C Akshay Kumar, Bachcha Ram Harijan, M Kiran Kumar, Manne Bharathi**

Paper Title: **BLDC Motor Speed Control using Fuzzy Logic PID Controller and Comparing It With PI Controller**

Abstract:In this project, mathematical model of the Brushless DC motor (BLDC) is developed and the closed-loop Fuzzy PID controller has been simulated in MATLAB-Simulink environment. The three-phase (BLDC) is developed and the DC power is supplied to this machine though six step inverter whose switching state is controlled by the hall signal. The hall effect sensor senses the rotor posit ion of the motor and it generates binary digit number which is decoded and given to the six-step inverter. The mathematical model is developed using the back emf equations and torque equation of the BLDC motor. The PI controller doesn't operate properly during dynamic state and hence the fuzzy-PID-controller is better option to control and regulate the speed of the BLDC motor which has high performance in comparison to the PI controller. And, we can get the smooth speed-torque characteristics using Fuzzy PID controller.

Keyword:PID controller, fuzzy logic, BLDC motor, Hall effect sensor, Electromagnetic torque.

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Authors: **Bonamsetti Madhu, Karri Vinay Sudheer, S. Rajasekhar**

	Paper Title:	**A Fully Automated Solar Tracking System**	
	Abstract:This is dual axis tracking system, the path of the sun is been tracked by the system is been determined in this procedure. The optimization goal is to increase the amount of generation energy with the help photovoltaic system considering the tracking system consumption. Determination of the tilt angle and azimuth angle trajectories is described as a nonlinear and bounded optimization problem, in future there will be drastic amount of shortage of non-renewable energy resources, we have to replace these resources ,For collection of solar energy we need to improve of efficiency we used sensors (LDR) for tracking of suns path to make sure that the panel should be placed in MPPT-(maximum power point tracking) to observe more efficiency to make sure that the panel should be placed in MPPT point. **Keyword:**High altitude wind control (HAWC), Power electronic converter (PEC), and cost of power (COE). **References:** 1. 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858.	**Authors:**	**S. M. Fernanda Iragraha, Soegiyanto, Hari Setijono, Sugiharto**	
	Paper Title:	**The Role of Woodball Sports Organization Universitas Negeri Semarang (Unnes) in Producing Talented Athletes**	
	Abstract:Survey method through evaluative descriptive approach is used in this study, which aims to determine the existence of woodball athletes coaching at student activity units (UKM) UNNES so that it can be used as reference for other regions to build up and produce potential athletes for the region, and further for Indonesia. The results of this study indicate that coaching woodball athletes at UKM UNNES going very well, because it is supported by the research results of students and lecturers in the field of woodball sports, supported by the human resources, and facilities and complete woodball sports equipment. The constraints faced include: (1) program/training schedules often conflict with the lecture schedule of students; (2) lack of coaching funds to follow the event and funds to organize events; (3) athletes/students sometimes took too long dispensation (permit college) while following the championship (so that athletes got mind burden for not following the lecture); (4) lack of attention and participation of universities in Semarang, Central Java, particularly those with sports studies program to jointly develop the woodball sport; and (5) starting early 2018 woodball permanent field area cannot be used in full (athletes began to fret about finding a place to practice).	**4928-4932**

Keyword:organization, woodball sports, science and technology, UNNES

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Authors: **Pankaj R Pardeshi, K K Dhande, Gorakh P Bhagat, Vikram S Suvarnkar, Vijay K Javanjal**

Paper Title: **Numerical Analysis of Intake Valve of CI Engine**

Abstract:Internal combustion engines are considered as complex system. The important aspect of any engine is power output which, largely depends upon the proper combustion of air fuel mixture. The aim of this research work is to outline the improve performance of Four stroke Compression Ignition engine by modifications in Inlet manifold geometryThe study is performed on Kirlosakr CI engine. At beginning design of existing inlet valve was studied and CAD drawing is prepared in CATIA V5 Software. Based on existing design and work done by various researchers new modified inlet valve with addition of small plate, is designed in CATIA V5 Software. The numerical investigation is performed using Ansys CFX solver in 14.5 In numerical simulations Engine with two ports is considered to be designed to study the movement of air flow

Keyword:combustion stages , Inlet valve , analysis of internal combustion

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860.

Authors: **Tatyana Avdjieva**

Paper Title: **Effect of Austenization Temperature on the Microstructure in Cr-Mn-Si Steel**

Abstract:This work is a part of research on the microstructure and mechanical properties of Cr-Mn-Si steels after various thermal treatments. In order to increase the resistance of the materials against failure it is necessary to possess simultaneously high strength and plasticity at the same time. Normally, in conventional metals, this is impossible. The purpose of the present study is to trace the polymorphic transformation of the microstructure and the redistribution of the trace elements in the corresponding microstructural transformations of the steel at each stage of applied heat treatment - austenization, quenching, austempering, tempering. The chosen sequence of applied heat treatments is to obtain a bainite structure of up to 50% in order to achieve high strength and toughness of the material.

Keyword:bainite, retained austenite, steels, phase transformations,

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Authors: **Janibekov B.O., Turapov M.K., Akbarov H.A., Tulyaganova N.Sh., Abdullaev A.X.**

Paper Title: **Research Geodynamic Situation of the Ore Formation of the Ore Deposits**

Abstract:The research reveals the goals and tasks of the science of geodynamics. A new technique is being considered aimed at studying the geodynamic situation of ore deposits in ore formation processes. The results of the reconstruction of the geodynamic conditions of the area of the Daugiztau deposit during ore deposition are presented.

Keyword:geodynamic, geotectonic, deposit, metallogenic, tectonomagmatic, tectonophysic, region, faults, formations, structural

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Authors: **T. Hephzibah, S. Induja, P.S. Raghavan, P.V. Rajeev**

Paper Title: **Enhanced Thermal Conductivity and Superior Antimicrobial Activity by Cu/Ni Nanofiber Dispersed Fluids with Prolonged Stability**

Abstract:The present study reports the synthesis, characterization and antibacterial properties of Cu/Ni nanofluids. The influence of various synthesis parameters on the stability of nano suspensions were studied and optimized. The samples were characterized using UV-Visible spectroscopy and TEM imaging techniques. The TEM images revealed the formation of nanofibers. The optimized composition of the Cu/Ni nanofluid was found to be stable for more than four months with zeta potential value of 40.4mV. The thermal conductivity studies showed 19% enhancement in comparison to the base fluid (water). The antibacterial properties of the nanosuspensions were studied by performing minimum inhibitory concentration tests (MIC) and zone of inhibition analysis.

Keyword: Bimetallic Nanofluids, Cu/Ni nanofibers, Thermal conductivity, Antimicrobial activity.

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Authors: **B. Satyanarayana, M. Srinivasan**

Paper Title: **Implementation of AES for Encryption in Vertex- 3 of FPGA Environment for Security**

Abstract:Data transmission with protection is main concept which is getting demand now a days for which number of encryption of data techniques are developed and now in this paper Advanced Encryption Standard (AES) Algorithm is used and is implemented on FPGA kit using vertex-3 family. We use 128 bits consists of input, key data, output data for this design. It is called an iterative looping with replacement box, key, loop in

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this design for both encryption and decryption of data. We use Xilinx software platform for simulation of our design that is AES by which area utilization and throughput is increased for achieving low power consumption, high data security, reduced latency and easy architectural design. This data operation is applicable in many areas.

Keyword:AES, encryption, decryption, Latency, FPGA, Throughput.

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Authors: **Sunita Sarangi, Suchitra Sarangi**

Paper Title: **Adaptive Technique for Salt and Pepper Noise Removal through Functional Link Artificial Neural Network**

Abstract:In this paper, an adaptive method for removing salt and pepper noise from images is proposed. A second order difference operator is used to locate the corrupted pixels in images by comparing with a threshold, which is selected adaptively using the image properties. A functional link artificial neural network (FLANN) based method is proposed to set a threshold for each corrupted image for identification of noisy pixels using recursive zero attracting least mean square (RZALMS) as the updating algorithm. Median filter is used to eliminate noise from the detected pixel locations.

Keyword: Adaptive threshold, Median Filter, Reweighted zero Attracting LMS, Salt and Pepper noise.

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Authors: **G. Pavan Kumar, R. Srinu Naik, Maheswara Rao Kesamsetty**

Paper Title: **DE Optimized LFC of Three Area Interconnected Power System with DFIG Wind System under Deregulated Environment**

Abstract:Load frequency control (LFC) of an interconnected three-area power system with HVDC link under deregulated environment in presence of wind system is investigated. Integration of renewable sources in to exiting plants will affect the system frequency and hence design of a suitable controller is needed to maintain frequency within limits. Study of impact of wind penetration in to deregulated environment is a key factor. The secondary PID controller improves the overall system performance during sudden load disturbances and random variations of wind input. The optimal values of PID controllers in all three areas and pitch control in wind system are tuned by using Differential Evaluation (DE) algorithm.

Keyword:frequency control, Restructured environment, Wind system, DE algorithm

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Authors: **R.Rajitha Jasmine, K.K.Thyagharajan**

Paper Title: **Hand-Held Object with Action Recognition Based On Convolutional Neural Network in Spatio Temporal Domain**

Abstract:Several applications such as object recognition and face recognition are established with the progress of smart devices and computer technology, to assist human-computer interaction (HCI). In HCI, Hand-held object recognition hasamain role. This approach helps the computer to realise the user's intentions and also meetsthe user requirements. Hand as an organ which is considered as a direct and natural way of communication for humans. The Hand-held Object Recognition (HHOR) assigns a label for the object which is heldin hand this could help machines in understanding the environment and the intention of the people. However, it has not been well studied in the community.So, in this paper, we proposed system for recognizing such activities happening between hands and faces in real time. The interaction events (e.g. eating, phoning and smoking) between hands and faces are analysed using the event analysis approach. Ratio histogram is used for obtaining the essential colour bins for detecting the desired objects via re-projection method. For object tracking and feature extraction, a code book method is used. To recognize various human-object interaction events, the dynamic and multiplicity contexts of event are modelled together. Finally, atwo stage cascaded CNN classifiers for the recognition is implemented as this technology improves the performance of object recognition.To make fair comparisons, six methods were compared in this paper based on the HMDB dataset. This system is effective and can be performed in real time because an exhaustive search process to find possible interaction pairs in the huge space of all possible event parameters is not involved. Experimental results have proved the superiority of our proposed system to analyse different human behaviours and events between hands and a face.

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Keyword: Computer technology, Hand-held object, convolutional neural network,

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Authors: **Abdalla Alameen, Ashu Gupta**

Paper Title: **Mockup Strategy and Analysis of Data Accretion in NS2 for Wireless Sensor Networks**

Abstract:Wireless Sensor Networks (WSNs) stay built after partial towards plentiful figures of dispersed interrelated sensor nodes. Standing and running a detailed and systematic test bed for enormous networks turn out to be affluent and time consuming. Predominantly in networking domain, it is classy to set up complete network deprived of simulation process since positioning with certain products may possibly be overpriced and more time consuming. In such Network Simulators save much of time and money. Recreation is used for data networking and it in that way aids investigators in resolving interrogations on time and likewise in insignificant cost. Energy effectiveness is a significant metric in source controlled Wireless Sensor Network (WSN). Data accretion is attained through repeatedly smearing the recommended structure at gathering domes. Multi-Interface Multi-Channel Routing Protocol is instigated here which makes use of metric demarcated by end to end delay, data and vitality ingestion. Further, the projected firmness and accretion are completed to additionally advance energy reserves and network epoch.

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Keyword:In such Network Simulators save much of time and money. Recreation is used for data networking and it in that way aids investigators in resolving interrogations on time and likewise in insignificant

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Authors:	**S. Keerthana, T. Pradeep**
Paper Title:	**Constructability Risk Assessment in Construction Projects**

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Abstract:Construction projects are started in a very critical and dynamic environment which results in more number of uncertainties and risks, which have the demand of time constraints. Now a days construction industries are changing their scenario by day to day basis based on their needs and uncertainties that prevails all over the world. By taking into consideration of all the uncertainties or risks, the important role played by few risks aspects which includes Constructability risks, financial risks, technical risks and administrative risks etc. In the above risks, the constructability risk plays major role which affect the entire process and progress of the work. From the past literatures it is to be observed that Technology risk, design risk, construction risk, procurement risk , management risk are considered to be more important. To overcome the above hurdles certain risk identification approach i.e. Formal approach, informal approach, and static approach. A special team can also be appointed by the clients to identify, analysis and to take preventive measure of the before the start of the work itself.

Keyword: Risk Identification, Construction risk management, Constructability risk, Descriptive Statistics.

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Authors:	**Ritu Ratra, Preeti Gulia**	
Paper Title:	**Big Data Tools and Techniques: A Roadmap for Predictive Analytics**	

Abstract:Nowadays, large volume of data is generated in the form of text, voice, video, images and sound. It is very challenging job to handle and to get process these different types of data. It is very laborious process to analysis big data by using the traditional data processing applications. Due to huge scattered file systems, a big data analysis is a difficult task. So, to analyses the big data, a number of tools and techniques are required. Some of the techniques of data mining are used to analyze the big data such as clustering, prediction, and classification and decision tree etc. Apache Hadoop, Apache spark, Apache Storm, MongoDB, NOSQL, HPCC are the tools used to handle big data. This paper presents a review and comparative study of these tools and techniques which are basically used for Big Data analytics. A brief summary of tools and techniques is represented here.

Keyword: Big data, Clustering, Hadoop, Spark, MongoDB, HDFS

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870.	**Authors:**	**Sathish P.K, S.Balaji**
	Paper Title:	**Fusion of Image Feature Descriptors for Person Re-identification**

Abstract:Person re-identification has gained a lot of research interest in recent years. Extracting and matching features play an important role in this scenario. Past studies of image feature detectors and descriptors are more generic in nature. Different types of detectors and descriptors are used for person re-identification over the last few years. Most of these descriptors are a combination of two or more variants of descriptors. This research paper will focus on the comparative analysis and evaluation of various features detectors and descriptors used for image matching with relevance to person re-identification. We also explore how the combination of local and global descriptors can improve the re-identification rate. VIPeR dataset is used for the evaluation of descriptors.

Keyword: Person Re-identification; Feature Descriptors; Video Surveillance; Hybrid Descriptor

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871.	**Authors:**	**Sivakumar.S, V.Ramya**
	Paper Title:	**Environmental Framework for Soil Sampling Using Iot**

Abstract:The population of India has reached over 1.2 billion, and the population level is growing. Therefore, after 25–30 years we can expect a difficult issue for food supplies, it is important to advance agribusiness. The main goal of this exploration is to test the measurement in the soil of the three noteworthy macronutrients (nitrogen (N), phosphorus (P), and potassium (K)) according to the farmer's. The soil sample sums N, P, and K are managed by comparing the solution with a shading map. This will represent N, P, and K as strong, moderate, and weak in self-restraint. The traditional procedures for agricultural land require human involvement. Nevertheless, human mediation can be restricted with this approach.

Keyword: Agriculture,Gas Sensor, IoT, Smart Agriculture, Soil Testing.

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872.

Authors: **Dao Ngoc The Luc, Truong Quang Hai, Truong Hoai Chinh, Dao Ngoc The Vinh**

Paper Title: **Concrete Filled Steel Tube Column And Wide Beam Connection: Proposed Structures and Experiment**

Abstract:Structural solutions utilizing concrete filled steel tube (CFST) column and reinforced concrete (RC) wide beams are used effectively in high-rise buildings, especially for large span. Currently, there have not been many theoretical and experimental researches on CFST column - RC wide beam connection to ensure the effectiveness of this structure type. Moreover, there have not been any experimental researches on the connection of CFST column – Prestressed concrete (PC) wide beam, as well as on assessing the effect of prestressed cables and shear head shape on the shear strength of the connection. This paper proposes connection structures; conducts experimental program, analyzes and compares different types of connections between CFST column and RC, PC wide beam using large size specimens to evaluate the actual behavior of proposed connections. Experimental results give a better view of the effect of shear-head shape as well as the prestressed force on the shear strength of the wide beam at the connections.

Keyword: Concrete filled steel tube, Reinforced concrete, Prestress concrete, Wide beam, Column

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Authors: **Karthik Shetty, Pratik Kanani**

Paper Title: **Drivable Road Corridor Detection using Flood Fill Road Detection Algorithm**

Abstract:Current image processing techniques for drivable road detection make use of lane markings. However, most roads lack lane markings which make such techniques obsolete. For such conditions, an image processing technique is required which identifies the boundaries of the road based on the color differences between the road and the surroundings. This paper proposes a flood fill road detection approach in which we first analyze a sample of the road and compute its RGB pixel distribution. The pixel range is used to detect the other road pixels in the image. Edge detection algorithms are then applied on the detected road to give road edge. It classifies the road on the basis of the visible differences between the road and its neighborhood. It allows for subtle color differences on the road surface, and unlike a color mask, due to the inherent growing nature of a flood fill algorithm, it does not detect neighborhood elements beyond the boundary having features similar to the road. This technique also manages to detect any obstructions on the road as opposed to other edge detection algorithms. We also propose methods to enable quick computation of otherwise expensive flood-fill algorithm. The method was tested on both marked and unmarked lanes and produced satisfying results for both images and videos.

Keyword:road detection, image processing, flood-fill algorithm

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Authors: **Nitesh Dhiman, M. K. Sharma**

Paper Title: **Diabetes Diagnostic Model Based on Truth-value Restrictions Method Using Inference of Intuitionistic Conditional and Qualified Fuzzy Propositions**

Abstract:Diabetes is a challenging problem nowadays. Not only in India, but it also spreads over worldwide, In the present research paper a novel scheme based on intuitionistic fuzzy propositions to explore the knowledge base rule system with uncertainty has been developed and for the extension of fuzzy propositions to the domain of factors causing diabetes. In this paper, we have constructed the conditional and qualified intuitionistic fuzzy proposition mathematically for the diabetes diagnostic model. We have also developed an algorithm for Truth-value restriction method using the conditional and qualified intuitionistic fuzzy proposition;with the help of developed algorithm for truth-value restriction method we will give a scheme to check this severity of the diabetes. Numerical computations have also been carried out to demonstrate our approach.

Keyword: Diabetes, Intuitionistic fuzzy set, Intuitionistic fuzzy relation, Intuitionistic fuzzy propositions, PIDD, Truth-value restrictions method.

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875.

Authors: **Priyanka, Lini Mathew**

Paper Title: **Sliding Mode Control of dc-dc Buck Converter using Typhoon Hardware in Loop Software**

Abstract:In this paper, a small standalone solar powered DC microgrid is designed and analysed. The control technique used here is sliding mode control. The common control technique of controlling dc-dc converter is

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	proportional Integral (PI) controller, which is not able to execute well under variations of load. DC-DC converter is nonlinear and time variant system therefore sliding mode controller can be used for dc-dc converter. DC microgrid model is designed and analysed by simulation using Typhoon HIL to observe the system's dynamic response in view of load impact and battery charging. The buck converter is designed with PWM (pulse width modulation) based sliding mode controller. The tool chain have processor with ultra low latency and unprecedented execution rate for the converter. Dynamic equations associated with the control logic is derived for buck converter. The control technique is tested for step load changes. Sliding mode controller performance is compared with proportional integral (PI) controller. Fast and robust dynamic response of output voltage is obtained. **Keyword:**Buck converter, sliding mode control (SMC), PWM (pulse width modulation), HIL (hardware in loop), DC microgrid. **References:** 1. Marouani Rym, Echaieb Kamel and Mami Abdelkader," Sliding mode controller for buck-boost converter in PV Grid connected system" IEEE Mediterranean Electrotechnical Conference Tunisia March 2012. 2. Kumbhojkar Aditi and Patel Nitinkumar," Sliding mode controller with cascaded control technique for dc-dc boost converter" IEEE International Conference on Circuit, Power and Computing Technologies, Nagarcoil India, March 2014. 3. Singh Suresh, Fulwani D., and Kumar V., "Robust sliding-mode control of dc-dc boost converter feeding a constant power load." IET Power Electronics, Vol. 8, Issue. 7, PP. 1230-1237, July 2015. 4. Momeneh A., Castilla M., Ghahderijani M.M., Miret J., and Vicuna Garcia De L., "Analysis, design and implementation of a dc-dc boost resonant-inductor converter with sliding-mode control," IET Journal Power Electronics, Vol. 11, Issue 3, March 2018. 5. Trevino Blanca A. Martinez, Jammes Robin, Aroudi Abdelali El, Salamero Luis Martinez," Sliding mode control of a boost converter supplying a constant power load" International Federation of Automatic control, Science Direct, Vol.50, Issue 1, Spain, Oct 2017. 6. Xiaonan Lu T. Dragicevi, C. Vasquez Juan and Guerrero M. Josep, "dc Microgrids-Part I: A Review of Control Strategies and Stabilization Techniques," IEEE Transaction Power Electronics, Vol. 31, no. 7, July 2016. 7. H. EL Fadil, F. Giri, H. Ouadi, "Adaptive Sliding Mode Control of PWM boost dc-dc converters"; IEEE International Conference on Control Applications Munich, Germany, October 6, 2006. 8. Siew Chong Tan, Y. M. Lai, Chi K, "Design of PWM Based Sliding Mode Voltage Controller for dc-dc Converters Operating in continuous conduction mode", IEEE International Conference on Communication and Electronics Systems, Hong Kong 2005. 9. Chincholkar S. H., Jiang W. and Chan C. Y., "A Modified Hysteresis-Modulation-Based Sliding Mode Control for Improved Performance in Hybrid dc-dc Boost Converter," IEEE Transaction Circuits System, Vol. 65, no. 11, November, 2018.	**5028**
876.	**Authors:**	**L.Ramesh, R.A.Roseline**
	Paper Title:	**An Implementation of New Qr Based Encryption Algorithm For Secure Medical Data In Cloud Storage**
	Abstract:Healthcare Information technology encryption is more and more popular alternative in terms of retaining sensational records inclusive of patient PHI. With more carriers implementing IOT, EHR-Connectivity and usage of linked gadgets, the problem over whether encryption is important is important is an extra widely wide-spread. Encryption of health data is while companies change information into encoded textual content, which makes the facts unreadable unless a person has a key or code to decrypt it. This could be a terrific choice for covered entities or commercial enterprise buddies that regularly manage electronic PHI (ePHI) and want to make sure unauthorized customer can't admit to get the information. In this paper discussed about the new QR based encryption Algorithm for secure medical data which is stored inside of the cloud. **Keyword:**QR, Encryption, Medical data, **References:** 1. A. E. Standard, "Federal information processing standards publication 197," FIPS PUB, pp. 46–3, 2001. 2. J. Daemen, R. Govaerts, and J. Vandewalle, "A new approach to block cipher design," in International Workshop on Fast Software Encryption. Springer, 1993, pp.18–32. 3. V. Rijmen, J. Daemen, B. Preneel, A. Bosselaers, and E. De Win, "The cipher shark," in International Workshop on Fast Software Encryption. Springer, 1996, pp.99–111. 4. A. Bogdanov, L. R. Knudsen, G. Leander, C. Paar, A. Poschmann, M. J. Robshaw, Y. Seurin, and C. Vikkelsoe, "Present: An ultra-lightweight block cipher," in International Workshop on Cryptographic Hardware and Embedded Systems. Springer, 2007, pp.450–466. 5. J. L. Massey, "Safer k-64: A byte-oriented block-ciphering algorithm," in International Workshop on Fast Software Encryption. Springer, 1993, pp.1–17. 6. V. Rijmen, J. Daemen, B. Preneel, A. Bosselaers, and E. De Win, "The cipher shark," in International Workshop on Fast Software Encryption. Springer, 1996, pp.99–111. 7. J. Daemen, L. Knudsen, and V. Rijmen, "The block cipher square," in International Workshop on Fast Software Encryption. Springer, 1997, pp.149–165.	**5029-5036**
877.	**Authors:**	**R.Narmadha, U.Anitha, M,S,Godwin Premi, G.D.Anbarasi Jebaselvi**
	Paper Title:	**Remotely Monitoring Driver Activity using Distributed Ground Sensors**
	Abstract:An autonomous ground Intelligence, Surveillance and Reconnaissance (ISR) sys- tem comprising of multiple distributed, wirelessly communicating smart sensors. Hence remotely monitor the driver's activity a portable is fixed in the vehicle and a finger print sensor is used as a key .Fingerprint is given and it get activated then also the ground sensors (acoustic, magnetic, accelerometer) get activated. If any circumstance situations happen like theft (or) enemies attacked the sensors get activated and the signals and information gets central office. It is used to detect metals and gives alert messages during critical level these alert messages and tracking	**5037-5040**

is done through ubidots app, it is license free app used for this project.

Keyword: Accelerometer, Magnetometer, security system monitoring

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Authors: **Akanksha Gupta, Priyank Nahar**

Paper Title: **An effective smart agriculture system using Internet of Things**

Abstract:Agriculture is the most important sector of economy, contributing major employment in the country and helping to develop the industry development with 16 percent of the national GDP growth and improving the life of people. Agriculture provides food, fiber, fuel, furniture, raw materials, a free fare and fresh environment, and plenteous nourishment for driving out starvation. But in the present scenario, the manual practices being followed by the farmers in our country are posing a huge threat to the sustenance of this sector. There is a need to incorporate automated system for various agricultural activities like irrigation, soil monitoring, harvesting and weather monitoring. Herein, we have created a Smart IoT based agriculture field monitoring and automatic field controlling agricultural storage system. The objective of any IOT system is to develop a smart automation system (smart home, smart IoT agriculture, smart monitor health, smart easy transport, etc.) using IoT technologies such as wireless sensors, embedded control devices and wireless communication protocols. We hereby present an IoT system interconnected with wireless devices which can sense the field and send the data to assigned system and finally the results can be noted with proper arrangements. Wireless sensors are used to sense the field and monitor the field with various aspects controlled manually and could be automated based on the requirement. In this paper we shall see that this IoT system shall not directly connect every device with the Internet but will connect through VPS integrated IoT Gateway. We propose a system that shall monitor and control the moisture level in the field soil and this real time data will be transmitted to the client to provide security for the farmland and avoid animal threats. The proposed smart IoT system will also monitor the growth of the trees.

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Keyword: IoT, communication infrastructure, field area network, monitoring and control, wireless sensor network.

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Authors: **A.M. Chesnokov**

Paper Title: **Functions in Column-Based Intelligent Systems**

Abstract:The possibility of implementing functions in column-based intelligent systems have been considered in the article. The basic concepts and definitions have been provided. The representation of functions in such systems have been proposed and the problem of implementing functions has been formulated. The solution to the problem of the implementation of functions using the element-by-element comparison method and the intersection method has been provided, as well as an assessment of the complexity of the solution.

Keyword:artificial intelligence, column-based intelligent systems, column, function.

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Authors: **Markova T.O., Repsh N.V., Belov A.N., Koltun G.G., Terebova S.V.**

Paper Title: **Information on Tachinid Fauna (Diptera, Tachinidae) Of the Phasiinae Subfamily in the Far East of Russia**

Abstract:For the first time, a comparative analysis of the tachinid fauna of the Phasiinae subfamily of the Russian Far East with the fauna of neighboring regions has been presented. The Phasiinae fauna of the Primorsky Krai (Far East of Russia) is characterized as peculiar but closest to the fauna of the southern part of Khabarovsk Krai, Amur Oblast and Eastern Siberia. The following groups of regions have been identified: Southern, Western and Eastern Siberia; Amur Oblast and Primorsky Krai, which share many common Holarctic and Transpalaearctic species.Special mention should be made of the fauna of the Khabarovsk Krai, Sakhalin Oblast, which are characterized by poor species composition and Japan (having a subtropical appearance).

Keyword: Diptera, Tachinidae, Phasiinae, tachinid, Russian Far East, fauna.

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Authors: **K. Viswanath Allamraju, Deepak Rajan**

Paper Title: **Contact stress Analysis of Tyre and Mild Steel Plate**

Abstract:In this paper presented contact stress of tyre and mild steel, which includes history of tyres, classification of tyres and heat dissipation. Tyres play very important role in carrying the loads from one place to another place.

Keyword: Contact stress, Mild steel, Tyre , Analysis.

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Authors: **Anzaur Adamovich Skhalyakhov, Hazret Ruslanovich Siyukhov, Zareta Talbievna Tazova, Ludmila Victorovna Lunina, Irina Guchevna Mugu**

Paper Title: **Phenolic Compounds and Antioxidant Potential of Wild-Growing Plant Materials of the North Caucasus Region**

Abstract:The article presents the results of studying the qualitative composition and quantitative content of some groups of phenolic compounds in 11 types of medicinal plants growing in the foothills of the North Caucasus, and provides the estimates of the antioxidant activity of extracts from these plants. The qualitative and quantitative content of phenolic compounds was determined using a Kapel-105M capillary electrophoresis system, and the total antioxidant activity of the extracts was measured on a Tsvet Yauza-01-AA device with an amperometric detector.

In the studied plant samples, the total content of tannins was determined, eight phenolcarbonic acids were identified and quantified, as well as quercetin and rutin — two of the most important flavonols.

The highest total content of phenolcarbonic acids (11,776.2 mg/kg), as well as the highest antioxidant activity were noted in the aqueous extract obtained from Echinacea purpurea (lat. Echinacea angustifolia).

The direct relationship between the antioxidant activity of the studied medicinal raw material and the content of phenolic compounds has been experimentally established as follows: the higher is the concentration of phenolic substances, the higher is the antioxidant activity.

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The results of this study provide new information on the composition and content of phenolic compounds in some types of wild-growing plant raw materials of the North Caucasus and the antioxidant activity of extracts based thereon that will facilitate the use of the studied plants as a potential source of natural antioxidants in the production of functional materials.

Keyword:medicinal raw material, phenolcarbonic acids, rutin, quercetin, tannins, extract, antioxidant activity.

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Authors: **T. R. Rajesh, Panthagani Vijaya Babu, Shaik Shabbir Hussain, K Venkata Subramanyam**

Paper Title: **Enhancement of Face Recognition using Deep Learning**

Abstract:Our aim in this paper is to increase the accuracy of existing facial recognition system on a comparative smaller dataset as per the requirements of present day. Namely in sensitive regions. The methodology that has been adopted is by combining more than one algorithms. The feature detection capability of harr cascade along with Ada boost to fetch to Bilinear CNN so that on a comparative smaller dataset can produce comparative result as on bigger dataset.

Keyword: Deep Learning, CNN, Bilinear CNN, RNN, PCA.

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Authors: **Archana M, MallikarjunShastry P M**

Paper Title: **A Method for Text Data Fragmentation to Provide Security in Cloud Computing**

Abstract:Security is one of the most crucial aspects in cloud computing, in order to provide security in cloud computing there are many cryptographic and non-cryptographic techniques [2][3] are used. Most of the non cryptographic approaches suffer from security breaches and the main drawback of cryptographic algorithms is computation time incurred in encryption and decryption of data. A methodology is proposed to implement unique approach to provide a security in cloud computing. Where text file will be fragmented based on random number generation.From the random number generation algorithm lower range and higher range values will be calculated so that the new random number which needs to compute should be within the lower and higher range of random number.Fragments can be obtained based on the new random number. With reference to the random number, block size or fragment size will be calculated. Hence text file will be divided into fragments.

Keyword: Cryptography, Fragments, Random Number

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Authors: **Anulekha Dey, Malika Sharma**

Paper Title: **The Role of Aquatic Training Program Among Special Need Children on Vestibular Processing of Sensory Stimulation**

Abstract:This study is pursued to find the role of Aquatic Training Program for children with special needs. Sensory profile questionnaire was used to assess the before and after performance of each students of each

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groups for Vestibular Processing, of 25Children average of age nine years, randomly selected from Asha AWWA school at Delhi, India. Participants were divided into two groups Experimental (13) and Control groups (12). Result of Two Way ANOVA reflects positive accelerated change only in experimental group, showing moderate to considerable benefits with 27 session aquatic training program. In addition, individualized improvement was also studied, which resulted into minor to major enhancement of vestibular processing among all the experimental group participants. Hence a prolonged Structured Aquatic Training Program (intervention) is off paramount to get the best results. These findings also enhance the preceding research work based on aquatic intervention as vestibular senses develop first and controls other senses since the baby is in womb, so it is important to develop this sense so other sense can process better to acquire a better life.

Keyword:special need, aquatic training program, vestibular processing, standard of living, quality of life.

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Authors: **Kadala Divyavani, Mamatha Samson, K.Swaraja, Padmavati Kora, Meenakshi.K**

Paper Title: **Design of Approximate Polar Maximum-Likelihood Decoder**

Abstract:Polar codes, presented by Arikan, accomplish the ability to acquire nearly error-less communication for any given noisy channel of symmetry with "low encoding and decoding complexities" on a huge set of fundamental channels. As of late, polar code turned into the best ideal error-correcting code from the perspective of information theory because of its quality of channel achieving capacity. Though the successive cancellation decoder with approximate computing is efficient, the proposed ML-based decoder is more efficient than the former. As it is equipped with the Modified Processing Element which shows the better performance with the properties of Median Filter. The proposed ML-based decoder diminishes the area and power consumed and logic utilization. In the present paper, effective polar decoder architecture is structured and executed on FPGA utilizing Vertex 5. Here we examine the proposed unique construction that is appropriate for decoding lengthy polar codes with less equipment multifaceted nature.

Keyword:SC Decoding, Approximate computing, IAOU, Media filter, ML decoding.

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Authors: **Alexi Delgado, Acuña M., Justano N., Llanos E., Puma I.**

Paper Title: **Water Quality Assessment in a Watershed in Cusco, Peru using the Grey Clustering Method**

Abstract:Water quality assessment is a current issue of increasing concern in many countries around the world for reasons such as population health, national economic development and the environmental quality of ecosystems. At this juncture, the Grey Clustering method is used to assess water quality at discharge points, from the beginning to the end of the environmental monitoring process in the area of influence of the Anabi mining unit in the Chonta and Milos micro-watershed. The parameters evaluated were pH, dissolved oxygen, total suspended solids (TSS), iron and manganese. The results obtained through the Grey Clustering methodology showed a monitoring point with contamination from a treated water discharge. On the other hand, in order to obtain greater efficiency in the evaluation of water quality, national standard DS 004-2017-Minam (Water Quality Standards) and international standards were used through the PRATI index. Through the results obtained it was observed that (by means of the Prati index) there is a better classification of the water quality in each point, therefore this research becomes an important tool for future studies to consider the Prati index for greater reliability of results.

Keyword: Grey Clustering, Water parameters, Water quality.

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Authors: **Deepika Dhamija, Anu Bharti**

Paper Title: **Recent Advancement in Mobile Payment Security Systems**

Abstract:The recent advancements in Information Technology have brought considerable changes in the way tasks are accomplished across the globe. The world has become a more connected place and a major impact as well as reason of this can be attributed to the steep rise in the usage of mobile devices. Mobile devices are being used for online payments in the form of shopping, money transfers, bill payments and what not. The majority of monetary transactions on the Internet now take place through mobile devices and therefore, mobile payment systems being wireless systems calls for an even more secure protocols and payment environment. Although the various security protocols available today boast of implementing the security requirements i.e. data confidentiality, integrity, non-repudiation, authentication and authorization, still the security of m-commerce transactions remain a major concern for mobile payment users. A number of m-commerce security techniques, models and protocols have been proposed by authors in recent past. This paper presents the recent advancements of the models and techniques authors proposed and the technologies and protocols used in these models. The paper also highlights the open areas of research in the field.

Keyword: Mobile, Commerce, M-Commerce, Security, Protocol, Payment, Network

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Authors: **Elangovan N, Ramachandran S, Ravinthiran A, Pradeep Kumar J.J, Praveen Raj S**

Paper Title: **Small-Scale Power Generation by Horizontal Axis Magnus Wind Turbine**

Abstract:The present work describes a method of small-scale generation of electric power using a horizontal axis Magnus Wind Turbine (MWT). Present levels of environmental pollution from fossil fuels and the high cost of generating electricity can be solved by using Green energy extracting wind turbines. Many researchers are trying to use renewable sources of energy to solve this problem. The present work investigates the generation of electricity by using Horizontal axis Magnus wind turbine. It is observed with a small investment and proper selection of the location of the site for deployment, the wind power is a better economical solution than other methods.

Keyword: Magnus effect, Power generation, Turbine, Wind power.

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Authors: **Kattaswamy Mergu**

Paper Title: **Combating PUE Attack in Cognitive Radio Networks using RSSI Based EKF and UKF**

Abstract:The problem of spectrum scarcity in wireless communication can be reduced by Cognitive Radio (CR) technology in which the spectrum holes or unused spectrum can be allocated to the secondary or unlicensed users. But the major problem in CR is providing security. Various security issues are present at different layer. One of the major wide spread security issue in the cognitive radio is the Primary user emulsion attack in which the malicious secondary user emulated as primary user to get spectrum resources for a long time. One of way to avoided PUEA is, by obtaining the location of malicious user. The conventional location detection techniques such as time of arrival, time difference of arrival and direction of arrival, will give better performance when the user is stationary. Even though Received Signal Strength Indicator along RF fingerprint technique gives the better location of mobile user but it requires the more hardware. Hence the cost is high.

In this paper, the author proposed an algorithm to locate the attacker using EKF and UKF with RSSI. In this algorithm, the initial position of user can be obtained by Received Signal Strength Indicator. This initial position integrated to EKF and UKF to track the location of primary user, which is a mobile user so that PUE Attack can be identified and avoided. The author also compares the performance of Extended Kalman Filter with Unscented Kalman Filter by Matlab software.

Keyword: Cognitive Radio, Extended Kalman Filter, Primary User Emulsion Attack, Received Signal Strength Indicator, Unscented Kalman Filter .

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Authors: **Sandeep Chittem, Seshapu Prassanna, Prem Sagar Konapally, Papani Srinivas**

Paper Title: **Implementation of Leakage Power Reduction Techniques in Field Programmable Device**

Abstract:This paper provide a summary of low-power technique for field-programmable gate arrays (FPDs). It cover system level propose technique as well as device level propose methods that have besieged present trade devices. In addition to describe present investigate happening circuit level as well as architecture-level create technique. Current studies on power model as well as on low-power computer-aided design (CAD) are also information. At last, it proposes that would allow the use of Field Programmable Device (FPD) equipment in applications where power and energy consumption is critical, such as mobile devices.

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Keyword:computer-aided design (CAD).

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Authors: **Suneetha Davuluri, D. Rathna Kishore**

Paper Title: **Cancer Clumps Detection using Image Processing Based on Cell Counting and Artificial Neural Network Techniques**

Abstract:Cancer is one of the main reasons for death among humans. So much research has been done for detecting and diagnosing cancer using image processing and classification and techniques. But the disease remains as one of the deadeist disease. Thus early detection of the disease is only one of the reasons to cure the cancer. In this proposed technique identifying cancer cell by using Image Processing, Artificial Neural Network techniques using cell counting, area measurement and detection of clumps. With the help of proposed technique we detect the cancer traits of any CT image, mammography image of biopsy samples automatically. So many algorithms was proposed but there was a lack of flexibility and the level of accuracy is not consists. Before applying proposed algorithm, the system preprocesses the input images with various techniques like gray scaling, binarization, inversion and flood fill operation. The proposed method can be work on various images and fine tuned with a feedback system and if can effectively used for automatically detection of cancer cells in a unique way and lead to open up new dimension in detecting cancer cell in the field of medical sciences.

Keyword: Image Segmentation, Artificial Neural Network, Mammography Image, Image acquisition, Clusters

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Authors: **Anjum Sheikh, Asha Ambhaikar, Sunil Kumar**

Paper Title: **Quality of Services Improvement for Secure Iot Networks**

Abstract:Evolution of technologies like IoT has enabled connection of devices around the world through internet. The devices are mostly termed as smart devices because of their capability to transmit, receive and process data. It is considered to be one of the fastest growing technologies and its users are increasing rapidly day by day. Successful implementation of IoT depends on the amount of data that is being either transmitted or received over the networks, ensuring quality of services (QoS) and the methods adopted to fight the energy constraints of the battery powered devices. The QoS parameters at the network level are end to end delay, throughput, jitter and packet delivery ratio. With the increase in number of IoT device on the network it has become essential to concentrate on security of devices and at the same time security of data that is being

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transferred over the networks. In this paper we have tried to study the algorithms that have been used to preserve location of source and sink nodes to protect it from breaching and also tried to analyze the effect of these security algorithms on the QoS of IoT networks.

Keyword: Internet of Things, Security, Energy Efficiency, Quality of Services, Sink, Source

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894.	**Authors:**	**P.Naresh, R.Suguna**	
	Paper Title:	**Implementation of Improved Association Rule Mining Algorithms for Fast Mining with Efficient Tree Structures on Large Datasets**	
	Abstract:ARM is a significant area of knowledge mining which enables association rules which are essential for decision making. Frequent itemset mining has a challenge against large datasets. As going on the dataset size increases the burden and time to discover rules will increase. In this paper the ARM algorithms with tree structures like FP-tree, FIN with POC tree and PPC tree are discussed for reducing overheads and time consuming. These algorithms use highly competent data structures for mining frequent itemsets from the database. FIN uses nodeset a unique and novel data structure to extract frequent itemsets and POC tree to store frequent itemset information. These techniques are extremely helpful in the marketing fields. The proposed and implemented techniques reveal that they have improved about performance by means of time and efficiency. **Keyword:**Association Rule Mining, FP-tree, POC tree, PPC tree **References:**1. Ms. Vinaya Sawant, Dr. Ketan Shah, “Performance Evaluation of Distributed Association Rule Mining Algorithms”, 7th International Conference on Communication, Computing and Virtualization, pp. 127 – 134, 2016.
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895.	**Authors:**	**Mohammed Nayeemuddin, P. Karpagavalli**	
	Paper Title:	**Using Lens at Aperture of Antenna for NFF and FFS**	
	Abstract:Antenna technology is developing in today’s world where data transmission is main. In such environment number of different antennas is developed for near field and far field focusing. In this paper a linear feed antenna array is presented which is a sectoral horn H-plane antenna having dielectric lens of biconvex shape are placed in the aperture. Only in h-plane our antenna focuses its beam for providing high aperture and small width of linear array illumination. For the array length illumination in the other plane the field distribution	**5142-5145**

is found on the array having nice agreement of 10 GHz frequency prototype. In this paper we use CST tool for simulation.

Keyword:CST, prototype, H-plane, far field, biconvex, aperture.

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Authors: **Md. Javeed Ahammed, R. Praveena**

Paper Title: **Optimizing the Directionality and Minimizing the Reflections using Lenses**

Abstract:In antenna propagation waves should be guided from leakages and directionality which has became more essential now a days due to number of hurdles which scatters the signal. In this paper we design a leaky lens antenna of UWB frequency and simulate that using CST tool in parallel plate waveguide that works efficiently in high frequency range of 6-30GHz. This approach is totally based on propagation of leaky waves by focusing on the lenses properties. Eventually we increase the gap between the lens and slot for optimal directivity in antenna and then for optimizing the transmission coefficient and minimizing the reflection we use the Matching layer in it. As a result directional radiation will be obtained which is much more achieved than any other antenna of Ultra Wide Band Range and the minimum bandwidth is required which is less than -10dB for radiation.

Keyword:UWB, leaky waves, hurdles, directivity, radiation.

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897.	**Authors:**	**G. Sai Krishna, Abhay Kumar Chaubey**
	Paper Title:	**Bending Analysis of Sandwich Panel with Soft Core**

Abstract:A sandwich panel is a lightweight structure, economical and having low thermal conductivity. It is made up of three layers in which the middle layer is called core which is bounded with thin layers at top and bottom called faces. Generally, the core has relatively low-density which makes it lightweight. The bending behavior of the sandwich panel with soft core is studied using the finite element (FE) based software ABAQUS. Shell elements in the three-layer arrangement has been considered to model the sandwich panel. The present model is validated with suitable published results. Then it is extended to analyze bending of sandwich panel with soft core. An FE model has been developed to generate many new results for different thickness, boundary conditions, aspect ratio, etc.

Keyword:sandwich panel, flexural behavior, ABAQUS

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898.	**Authors:**	**Geeta C M, Rashmi B N, Nikhil R C, Rajkumar Buyya, Venugopal K R**
	Paper Title:	**VOTE: Verifiable Auditing for Outsourced Database with Token Enforced Cloud Storage**

Abstract:Database deploying is one of the remarkable utilities in cloud computing where the Information Proprietor (IP) assigns the database administration to the Cloud Service Provider (CSP) in order to lower the administration overhead and preservation expenditures of the database. Regardless of its overwhelming advantages, it experiences few security problems such as confidentiality of deployed database and auditability of search outcome. In recent past, survey has been carried out on the auditability of search outcome of deployed database that gives preciseness and intactness of search outcome. But in the prevailing schemes, since there is flow of data between IP and the clients repeatedly, huge communication cost is incurred at the Information Proprietor side. To address this challenge, we introduce Verifiable Auditing of Outsourced Database with Token Enforced Cloud Storage (VOTE) mechanism based on Merkle Hash Tree (MHT), Invertible Bloom Filter(IBF) and Counting Bloom Filter(CBF). The proposed scheme reduces the huge communication cost at the Information Proprietor side and achieves preciseness and intactness of the search outcome. Experimental analysis show that the proposed scheme has totally reduced the huge communication cost at the Information Proprietor side, and simultaneously achieves the preciseness and intactness of search outcome though the semi-trusted CSP deliberately sends a null set.

Keyword: Cloud Computing, Database Encryption, Integrity Auditing, Invertible Bloom Filter, Outsourcing Computation, Query Auditing.

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Authors: **Satyabrata Saha, Mrinmoy Majumder, Manish Pal**

Paper Title: **Identification of Park Effect Probability in Wave Energy Conversion System using Multi Criteria Decision Making Method (AHP) and Neural Network Model (GMDH Shell)**

Abstract:The present research work demonstrates the trend of Park Effect to the Wave Energy Conversion system or in wave energy converter. The Park Effect occurred due to various reasons in a real field application of Wave Energy Conversion. Park Effect occurred in wind energy as well as wave energy. All possible factors are considered to find out the Park Effect. To analyze the Park Effect probability, Analytical Hierarchy Process (AHP) is used, from the result a model is generated through Neural Network software named GMDH Shell. There are significant uncertainties arising in particular from the lack of field tested result to calculate the Park Effect proximity on the devices. However, applying various hypotheses for design and physical parameters, it was found that the benefits of Park Effect influenced factors are all non-beneficiary to Park Effect trend. After all the calculations it can predict the proximity of the Park Effect in a Wave Energy Conversion system.

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Keyword:AHP; Group Method of Data Handling (GMDH); Multi Criteria Decision Making; Park Effect; Wave Energy; Wave Energy Converter.

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Authors: **Tanuja Das, Abhinandan Khan, Goutam Saha**

Paper Title: **Classification of Imbalanced Big Data using SMOTE with Rough Random Forest**

Abstract:Learning from datasets is an important research topic today. Amongst the various data mining tools available for the purpose, none works satisfactorily in the case of imbalanced data mainly because this type of data gives rise to various minority classes, which may affect the learning process. In addition to the large volume, characteristics of Big Data also include velocity and variety. The Synthetic Minority Oversampling Technique (SMOTE) is a widely used technique to balance imbalanced data. Here, we have focussed on extending this concept to conform to the Big Data environment by combining it with the concepts of rough random forest (RRF). This hybrid approach comprising SMOTE and RRF algorithms for learning from imbalanced datasets has been applied on various benchmark datasets from the KEEL Dataset Repository. The results obtained are satisfactory. The velocity aspect of Big Data has been handled by this method on the dynamic dataset of the stock market. The results obtained have been verified using popular online websites related to stock markets.

Keyword:big data, rough set theory, random forest, rough random forest, SMOTE, stock market data.

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Authors: **Yellamma Pachipala, Amarendra K, Puvvada Nagesh, K Sri Rama Vamsi**

Paper Title: **Ionospheric Modeling and Forecasting Services of GNSS**

Abstract: The study of ionospheric variability is vital for refining and predicts services of GNSS (Global Navigation Satellite System) applications. The GNSS service provides an explicitly obtainable resource GNSS information, goods and services in support of the earthly reference structure. GNSS is provides an Earth observation, navigation, positioning, timing and other applications, that an assistance Society and Science. To investigate the variations in the daily averaged TEC (Total Electron Content) by taking several model components such as solar activity component, geomagnetic activity and periodic components at different latitudes ranging from 10 N to 26 N for the year 2018. The presented results would be useful to download, processing and analysis the IGS (International GNSS Service) data. MSSA model can reproduce quite well the observed values of GPS-TEC by utilizing only the first 4 singular modes and constitutes 99% of the total variance. The data is transformed into the singular values which are used for forecasting a noiseless time series. The proposed system results show that higher accuracy is achieved by MSSA (Multivariate Singular Spectrum Analysis) based model. It can also be noted that the training of MSSA is much faster and achieves higher learning accuracy, lowest training time. MSSA is effective even the space weather conditions are active during different solar phase periods.

Keyword: GNSS, MSSA, International GNSS Service, Global Positioning System, total electron content

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15. Yellamma Pachipala[1], C Nagaraju[2], Raju Anitha[3] A.Yeswanth[4], K. Karthik[5], P. Surendra[6]IoT Based Water Level Meter",International Conference on Smart Systems and Inventive Technology (ICSSIT 2018), ISBN:978-1-5386-5872-7,**2018** IEEE Xplor

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Authors:	**Mahesh Mardolkar, N Kumaran**
Paper Title:	**Student Dropout Prediction & Educational Data Mining**

Abstract:Educational data like students performance is very important to study and analyze and to improve the quality of education. The study concerned to data mining techniques with educational data is known as Educational Data Mining (EDM). This study finds knowledge and interesting patterns in educational organization. Students performance are the subject mainly concerned to find the qualitative model based on student's personal and social factors then classify and predict the student performance. Proper counseling to underperforming students can reduce dropout ratio and help them to continue their studies.

Keyword: Data Mining, Education, Patterns, Performance, Student.

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903.

Authors:	**Bhagya Shree, Suman Bhakar**
Paper Title:	**Securing the IOT Devices with Artificial Immune System**

Abstract:Security is the main concern for IOT devices as are expected to share a lot of crucial information about the user and his surroundings. The traditional security mechanisms are ineffective against sophisticated and advanced security attacks such as Man in the Middle Attack, Denial of Service attack, Identity cloning. Different solutions have been proposed for user authentication. Device authentication is crucial in IOT environment and cannot be neglected. Despite this device authentication has not gained equal attention from the research community.

The aim of this research is to develop a lightweight and robust device authentication algorithm by Artificial Immune System to ensure data integrity in IoT networks. The concepts of Artificial Immune system are utilized for generating a non-redundant device signature which is used to differentiate between authentic and malicious nodes. The device signature is generated dynamically and is non reusable. This property makes the proposed

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algorithm secure against numerous high-level attacks such as frequency analysis attacks, Man in the Middle attack, side channel attacks, Denial of Service attack.

The developed algorithm is tested in real time and prevents malicious nodes from entering the network. In addition to being immune against the high level attacks the proposed algorithm functions with low communication cost. The proposed algorithm can be used for providing security in IOT devices with limited battery life and processing power such as IOT enabled and remotely deployed Wireless Sensor Networks for forest fire detection, power plant monitoring , remote military applications and many others.

Keyword: Artificial Immune System, Device Authentication, Internet of Things, Security.

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904.	**Authors:**	**Shalni Prashar, Suman Bhakar**
	Paper Title:	**Real Time Cyberbullying Detection**

Abstract:Automated approaches for detecting cyberbullying on online platforms has remained a primary research concern over past years. Cyber bullying is defined as the use of electronic communication to bully a person, typically by sending messages of intimidating or threatening nature. The victims especially teenagers suffer from loss of confidence, depression, sleep disorder. The research on automated cyberbullying approach is mainly focused on data driven methods. Such methods work on a database of static texts, usually collected from online platforms and are not feasible for dynamic nature of a real-life social networking scenarios.

The aim of our research is to develop a cyberbullying detection system using Fuzzy Logic. Three types of bullying emotions are considered in this research work namely aggression, abuse and threat. In the proposed approach chat between two users is continuously monitored and emotion present in each message is determined. Based on the emotion each user's behavior is categorized as decent or bullying. If the detected bullying nature is higher than a defined threshold value the account of user is ceased and reported automatically.

The proposed approach is tested with a chat application developed in Microsoft .Net Framework and approach can detect cyber bullying in good time. The proposed approach, if implemented with social networking platforms can serve as a useful aid for preventing online harassment. The developed algorithm can also be applied in surveillance and human behavioral analysis.

Keyword: Cyber bulling, Fuzzy Logic, k means clustering, Abusive language detection.

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Authors: **ChitralaKavitha, S. Nageswararao**

Paper Title: **A Machine Learning way to Build Trust on Social Network.**

Abstract:A social network is a type of service provided by the online platform where an individual can communicate easily with each other, it also provides personal relationships and social interactions. Apart from this it also provides the website where users can build a public figure(profile) and can interact with other users. The social networking sites mainly have the trust issues to overcome, this we tried to build trust in online networks by using the Naive Bayes algorithm algorithm which is deployed through by communication direct and indirect trust and for calculating the trust values Bayesian conditional and Dempster-Shafer theory is implemented. Reenactment results with various arrange parameters are introduced to show the adequacy of the proposed plan.

Keyword: Online social network, trust, indirect trust, Naïve Bayes

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906.

Authors: **Naveen Kumar G.N, Sridhar N, Sanath Kumar T P**

Paper Title: **Improvement of Power Quality in an Adaptive Boost PFC Converter with Generation of PWM Control Signal by Cascading Power Factor and Chaos Controller Circuits**

Abstract:This work discusses about a digital controller system for reduced effect of chaos and improved power factor of a 1-phase AC-DC converter system. It is shown that, the proposed controller technique is able to suppress the chaos at variable load condition of a boost power factor correction (BPFC) converter. Furthermore, a systematic methodology based on bifurcation diagram from tuning the controller is proposed. To achieve improved power quality in BPFC converter, combination of average and peak inductor current mode control methods are performed. In the MATLAB/SIMULINK environment, simulation circuit for the BPFC converter with average current control method is developed to improve power factor. Further, to reduce the effect of chaos produced in converter, peak inductor current mode with delayed feedback control method is adopted. At an output power of 650 W operating at 130K Hz switching frequency, this converter provides Total Harmonic Distortion (THDi) reduction of 20% and improved Power Factor (PF) of input current compared to other conventional converter. For real time operation of the system, rapid prototyping test is carried out using DAQ (Data acquisition) board NI 6351. The delayed feedback control has a better performance than any other methods proposed earlier.

Keyword:THD, chaos, converter, PWM

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Authors:	**Vishal Moyal**
Paper Title:	**A Suggestive Low Power TIQ Comparator Architecture using Adiabatic Logic for Implementation of 3-bit Flash type ADC.**

Abstract:Power consumption is prime concern for the designers in modern day scenario. For the devices that are power-driven by tiny rechargeable or non-rechargeable batteries over the entire life period, such as medical transplant devices or portable medical instruments, necessitates lowest possible power consumption. In these devices Analog-to-Digital Converter (ADC) isdynamic component to provide connectionamongstAnalog and Digital system. The paper is aimed to report the design contests and tactics for low power ADCs which are used in biomedical graft devices and instruments. A comparator module of ADCs used in designing of such devices requires more power than other blocks in the device, a low power comparator is suggested for Threshold-Inverter-Quantizer (TIQ)usingDiode-Free-Adiabatic-Logic (DFAL) to implement Flash type ADCs. The projected 3-bit Flash ADC is simulated using Cadence ® Virtuoso IC616 with TSMC 65nm technology. The ADC was simulated atpeak to peak voltage of 1.2V andcapacitive load of 1fF,results in consumption of5.53 µW of average power, which is 66.03 % lesser relative toconservative CMOS-TIQ based comparator. Observed static parameters are: DNL is equal to-0.62 / + 0.57 LSB and INL is equal to- 0.44/ +0.41 LSB.Dynamic parameters observed results are as: THD = -25.25dB, SNR=19.45 dB, SNDR=18.39 dB, ENOB=2.76 bits, SFDR = 23.4 dB.

Keyword:CMOS, PMOS, NMOS, ADC, TIQ,DFAL, VTC, MUX, LSB, DNL, INL, SFDR,SNR, ENOB.

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Authors: **Mousam Chatterjee, Banani Basu, Arnab Nandi, Chanchal Kumar De**

Paper Title: **Outage and Throughput Analysis of Spectrum Sharing Cognitive Radio Network Incorporating Energy Harvesting Hybrid Relay**

Abstract:In this paper, cooperative spectrum sharing in cognitive radio (CR) network is incorporated with multi-antenna based RF energy harvesting relays (EH). The performance has been analyzed in the presence of multiple primary users. The relays can harvest energy from source signal and interference from primary transmitter. The relays follow adaptive hybrid protocol (AHR) for forwarding the received signal from source to destination. Outage probability and achievable throughput have been analyzed using a time-splitting relaying (TSR) scheme at the destination where best relay selection (BRS) strategy is used. The outage performances of energy harvesting and non-energy harvesting model have been compared. Throughput and outage performance comparison for AF, DF and AHR have been analyzed. The effect of the number of primary users is also investigated. A trade-off is shown between the number of relays and the number of antennas to achieve the desired throughput. The results depict that the use of energy harvesting strategy in cognitive radio network can result in an energy-efficient solution for future wireless communication.

Keyword: Amplify-and-Forward (AF); Decode-and-Forward (DF); Adaptive Hybrid Relay (AHR); Energy Harvesting (EH).

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909.

Authors: **Devineni Rajesh Reddy, R Kiranmayi**

Paper Title: **Graphical Robust PID Tuning of TITO Processes**

Abstract:In this paper, PID controller for Decentralized TITO process is tuned using graphical approach. Ideal decoupler is used to decouple TITO system and then each decoupled system is approximated to FOPDT model. The Graphical method uses boundaries determined by the loci of stability and frequency domain characteristics such as Gain, and Phase margin etc. common region of these loci gives the values of the PID controller coefficients. The results are validated using MATLAB and the simulated results are presented for Coupled tank system.

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Keyword:PID control, Decentralized, TITO, Coupled Tank system, Graphical method of PID tuning.

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Authors: **T. Mohammad Munawar, D. Muralidhara Rao, P. Subramanyam**

Paper Title: **Antibacterial, Antioxidant and Anti-Inflammatory Potential of the Different Extracts of Holoptelia Integrifolia**

Abstract:Medicinal plants are play significant impact in the personal medicine for most of the people all over the world as an alternative live saving medicines and most of their medicinal properties are well known for anticancer activity. The different extracts of Holoptelea integrifolia (H.integrifolia) leaves, stem bark and fruits were studied as a potent natural source of antimicrobial, antioxidant and wound healing potential. This work was carried out to evaluate antimicrobial, antioxidant and anti-inflammatory activity of different extracts of H.integrifolia. The antimicrobial activity of the H.integrifolia ethanolic extract was studied against five fungal and bacterial strains by utilizing the agar well diffusion method and MIC. Among several strain, the ethanolic extract of fruit has shown higher antimicrobial inhibition zone as 9.25-16 mm compare to other two extracts of stem and leaves as 10- 13.25 mm and 6-10.2 mm respectively. The antioxidant activities for different extract were also determined by DPPH free radical assay, Hydroxyl Radical Scavenging and Nitric Oxide Radical Scavenging Activity method. The anti-inflammatory activity also estimated basedon formalin induced paw edema method on Wistar albino rats. The different extracts of leaves, stem bark and fruit parts of Holoptelea integrifolia were estimated for in vivo anti-inflammatory activity against the animal model of female Wistar albino rats. The results of anti-inflammatory activity revealed that the Ethanol extracts showed vital and dose-dependent anti-inflammatory effects. Our findings revealed that aerial parts of H.integrifolia contais potential antimicrobial, antioxidant and anti-inflammatory compounds, which expose the medicinal potential of the selected plant could be a significant drug candidates against microbial, oxidative and inflammation-related pathological processes as a future alternative medicine.

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Keyword: Holoptelea integrifolia, Microbial inhibition concentration, DPPH, Hydroxyl Radical Scavenging, Nitric Oxide Radical Scavenging, Anti-inflammatory.

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Authors:

Paper Title:

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Authors: **Haneen A. Kh. Karaghool , Waleed M. Sh. Alabdraba, Abdulla S. Tais, Mohammed H. Ameen**

Paper Title: **Assessment of Groundwater Quality in Al'am District using the Canadian Water Quality Index**

Abstract:The study assesses groundwater quality characteristics in Al'am District which is a part of Salah al-Din Governorate, by use of the Canadian Council of Ministers of the Environment Water Quality Index (CCMEWQI). The samples were taken from six groundwater wells for the assessment and sampling was done at six months per year. Based on CCMEWQI calculated values, the six wells from which the samples collected were in poor rank for drinking purpose. The prime causes of deterioration groundwater quality are total dissolved solids (TDS), and total hardness (TH). This study suggested further improvement and continuous monitoring for the groundwater in the study area to provide safe drinking water.

Keyword: Groundwater, The Canadian Council of Ministers of the Environment Water Quality Index (CCMEWQI).

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913. **Authors:** **K. I. Vishnu Vandana, K.N.S. Suman**

	Paper Title:	**Hardness and Fracture Toughness of Ceramic Composite Using Experimental and Analytical Methods**	
	Abstract:The present work investigated and discussed the impact of addition of graphene to Al2O3 ceramic matrix (alumina) and its effect on different mechanical properties of resulting alumina-graphene (Al-G) composite tool material. Alumina – Graphene (Al-G) ceramic composite tools were prepared through powder metallurgy technique by maintaining different weight proportions of graphene. The wt% is varied from 0.15 to 0.65 with an interval of 0.1%. Hardness and Fracture toughness properties were tested and these properties were observed to be increased at lower content of graphene up to 0.45wt% and later on a decrement trend was observed with increased content of graphene. The composite with 0.45wt% of graphene yielded the highest hardness (HV) and fracture toughness (KIC) parameter values at an indentation load of 294N. The composite specimens were prepared through Microwave sintering of powder metallurgy technique to ensure uniform grain structure to the resulting composite. **Keyword:**Alumina –Graphene, Ceramic Composite, Fracture toughness, Hardness, microwave sintering **References:**1. H. Schulz, T. Moriwaki, High-speed machining, CIRP. Ann. Manuf. Technol. 41 (1992) 637–643. 2. W. Grzesik, Wear development on wiper Al2O3–TiC mixed ceramic tools in hard machining of high strength steel, Wear 9 (2009) 1021–1028. 3. W.H. Tuan, R.Z. Chen, T.C. Wang, C.H. Cheng, P.S. Kuo, Mechanical properties of Al2O3/ZrO2 composites, J. Eur. Ceram. Soc. 22 (2002) 2827–2833. 4. Z.S. Rak, J. Czechowski, Manufacture and properties of Al2O3-TiN particulate composites, J. Eur. Ceram. Soc. 18 (1998) 373–380. 5. B. Baron, C.S. Kumar, G.L. Gonidec, S. Hampshire, Comparison of different alumina powders for the aqueous processing and pressureless sintering of Al2O3– SiC nanocomposites, J. Eur. Ceram. 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914.	**Authors:**	**S. P. Sangeetha, P. S. Aravind Raj, R. Divahar, Jummai Tali, Rajat Chander**	
	Paper Title:	**Performance of Exclusive Bus Lanes in Chennai**	
	Abstract:A bus lane is a lane which is provide only for operating buses and used to avoid traffic congestion. The current bus transit system in Chennai, known as MTC (METROPOLITAN TRANSPORT CORPORATION), is accommodating about 4 million transport units sufficient to accompany increasing number of passengers. Buses have to share the lane with other vehicles, which affects their capacity, speed, reliability, and quality of service. Due to traffic congestions, travel during peak hours in Metropolitan cities has become unattractive. An attempt has been made in this paper to provide lanes only for operation of buses. Three arterial roads connecting Kelambakkam to Sholinganallur, Chennai central to TambaramVandaloor zoo to Tambaram were selected for the study. Traffic volume survey was conducted in these areas. Based upon the survey conducted and analysis made, suggestions are proposed for the exclusive bus lanes for theselected area where traffic congestion is more during peak hours.	**5255-5258**

Keyword: Bus lane, peak hour, traffic congestion, traffic volume.

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Authors: **HemlataAggarwal, H.D. Arora, Vijay Kumar**

Paper Title: **A Decision-making Problem as an Applications of Intuitionistic Fuzzy Set**

Abstract:The fuzzy sets and Intuitionistic fuzzy sets are very useful concepts to elaborate the vagueness in real world problems. The objective of our study is to apply fuzzy set theory and Intuitionistic fuzzy set theory in decision making process. In this paper, we identify in which society a person has to purchase a house in order to fulfil his requirement to maximum extent. In our study we use intuitionistic fuzzy sets to find a relation between the societies and the parameters. And then we find a relation between a person and the parameters. We calculate Normalized Euclidean distance between two Intuitionistic fuzzy sets to make a decision of purchasing house in a society.

Keyword: Fuzzy sets, Intuitionistic fuzzy sets, distance between two intuitionistic fuzzy sets.

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916.

Authors: **Manisha Malik, PR Sharma**

Paper Title: **Power Quality Issues in Grid Tied Solar System and its Prevention**

Abstract:The present day demand due to the reduction of fossil fuel resources on a worldwide basis has enforced an urgent seek for alternative energy sources a well-acknowledged as renewable energy sources. In India the integration of solar PV generation in the utility grid is attainment high popularity. Consequently, the solar panel interfaced with the grid cause the power quality issues such as voltage regulation, flickers, harmonics etc. In this paper solar grid integration technology, challenges of integration & their mitigations techniques such as FACTS devise and power electronics are discussed. The key objective of this paper is to identify the problems associated with grid connected solar power system and the study of implementation of new projects of solar PV grid integration without repeating apparent challenges faced in prevailing plans and prepare data for scientists and researchers on feasibility of SPV grid integration.

Keyword: Power Quality, Harmonics, Solar PV Energy, fossil fuel, voltage regulation, UPQC.

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Authors: **Baby D Dayana, A. R Sagar, P. Srikar, G. Venkatesh**

Paper Title: **Vehicle Security System using Motion Sensors**

Abstract:A lot of advancements in science and technology have been observed in last decade. Children used to play in cars and by mistake they lock themselves in the car. As the parents were unaware of this, children face the problem of suffocation which may lead to their death. This concept is developed to avoid this kind of disasters by using the advanced technology such as motion sensors. when the sensor detects any abnormal motion in the vehicle the oxygen is supplied inside the vehicle through oxygen cylinders.

Keyword:PIR Motion sensor, abnormal motion detection, suffocation, wireless connected device.

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2. car alarm detection device
3. Advanced security system for car
4. Human Activity Recognition Based on Motion Sensor Using U-Net
5. Robust Human Activity Recognition Using Multimodal Feature-Level Fusion
6. Pushbuttons and tilt sensor/switches: how they work and some Arduino utilization examples, July 2010, [online] Available
7. Fast deep neural networks with information guided schooling and expected areas of interests for actual-time video item detection.
8. Cascaded regional Spatio-temporal feature-routing networks for video item detection.
9. A neuromorphic individual re-identificationframeworkforvideosurveillance.
10. Semi-coupled dictionary learning with rest label area transformation for video-based total person re-identification.
11. Vision-based actual-time aerial item localization and tracking for UAV sensing system.
12. Learning discriminative appearance models for online multi-item tracking with appearance discriminability measures.
13. An emotion recognition machine for mobile programs.
14. Motion and disparity vectors early willpower for texture video in 3D-HEVC.
15. An improved fall detection gadget for aged character tracking using client home networks.
16. Trust management method of D2D communication based totally on RF fingerprint identification.
17. Particle swarm optimization based totally clustering set of rules with cellular sink for WSNs.

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918.

Authors: **Ranjith Perumal, Srinivasarao Alluri, Nakkeeran Rangaswamy**

Paper Title: **A Compound Reconfigurable Solid State Planar Plasma Antenna**

Abstract:In today's modern wireless era, reconfigurable antennas play a vital role for functioning under selective frequency bands, different polarizations and radiation patterns according to the users' application. This article, gives an insight on solid state plasma planar compound reconfigurable antenna for military radar applications at X-band by using array of Lateral PIN (LPIN) diodes. Silicon-dioxide (SiO2) is used as substrate and proximity coupled feeding technique is chosen to avoid biasing problem in LPIN diodes and also to have compatibility with processing on a standard silicon process. The proposed antenna comprises of a square metallic patch placed above the substrate with linear array of LPIN diodes at adjacent sides of patch to provide fine and coarse tuning in frequency over the range of 8-12 GHz and LPIN diodes placed in the ground plane to provide pattern reconfiguration. Hence, the antenna with compound reconfigurability converges to a solution, where a single antenna satisfies the needs for multiple applications.

Keyword: Compound Reconfigurable Antenna, Lateral PIN Diode, Plasma Antenna, Proximity Coupled Feed.

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919.

Authors: **Murhima A. Kau**

Paper Title: **Teacher Competence in Developing Creativity Elementary School Students**

Abstract:Creativity is an important aspect of human life. Creativity can help someone in solving problems and facing the development of science and technology. Student creativity will develop optimally if the teacher has sufficient competence. The more creative a teacher, the more creative the students. This study aims to obtain a data picture of the creativity ability of fifth grade elementary school students in Gorontalo Province. The study was conducted in elementary schools in Gorontalo Province for grade 5 elementary school students. The research method was descriptive-quantitative, with a sample population of fifth grade elementary school students coming from 6 regions in Gorontalo Province. The fifth grade elementary school sample was taken using the stratified random sampling technique for each district and city, so that a total sample of 120 students was obtained. The measuring instrument used was the Verbal Creativity Test developed by Munandar and the data were analyzed using descriptive statistics. The results showed that some 75 % grade elementary school students throughout the province of Gorontalo has a low level of creativity ability. This shows that the low creativity of students is due to the lack of variation in providing learning methods and strategies by the teacher.

Keyword:teacher, creativity, elementary school students

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920.

Authors: **Rocky Marbun, Abdul Hakim, Abdul Rahmat**

Paper Title: **Third-Party Interest in Arbitration Dispute Settlement Process**

Abstract:The existence of a Third Party in the Civil Code, in general, is a party to be taken into account not to suffer harm to a civil dispute. However, things are different in Arbitration Law which is a special branch of the Civil Code. Moving from the principle of secrecy, there is a disclosure of information on disputes in the world of commerce, which is characterized by variants of Contract Law in the world of commerce so as to make the potential losses that arise for other parties against the same trade object . Arbitration Law in Indonesia has ignored the interests of interested third parties by relying on the entry of such parties on the basis of voluntary parties and the approval of the Arbitral Tribunal.

Keyword:law, dispute, arbitration

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921.

Authors:	**Wahiduddin Basry, Dewi Ayu Setiawati, Andi Rizal, Rajindra, Ahmad Yani**
Paper Title:	**Design of Clean Water Pipes in Bangga Village, South Dolo District, Sigi Regency**

Abstract:This study is to provide an overview of the design of clean water pipelines in Bangga Village, South Dolo District, Sigi Regency. The limitation in this design is to analyze the availability of water/discharge mainstay of the Bangga River using the F.J Mock method and calculate the need for clean water in Bangga Village according to the estimated population for the next 27 years. The design method is carried out using meteorological data collection methods, data on population density, topographic data, and rainfall data, then calculates the need for clean water and is compared with the reliable discharge. The result is obtained a minimum mainstay of the Bangga River discharge (Qand 0.282 m3 / sec) to meet the needs of clean water in the service area until 2040 required a water debit of (6,295 ltr / sec). From the water requirements, 2 (two) design methods were designed which included 1 (one) clean water pipeline design and 2 (two) clean water pipeline design. From the design results obtained a maximum pressure of 4.2662 kg / cm2 which occurs at the node / pipe connection P.15 this does not exceed the maximum allowable limit of 10 kg / cm2, while the maximum speed obtained at 1.1688 m / sec which occur at vertices P, 6 and P. 12 this does not exceed the maximum limit of 3 m / sec. For the number of pipe requirements needed in this design are 1747 sticks, where for Ø 8 "17 sticks, Ø 6" 259 sticks, Ø 4 "108 sticks, Ø 3" 760 sticks, Ø 1 "565 sticks, Ø ½ "38 sticks.

Keyword: Pipe design, maximum pressure.

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922.

Authors:	**D. Dev Singh, Suresh Arjula, A. Raji Reddy**
Paper Title:	**Metal Additive Manufacturing by Powder Blown Beam Deposition Process**

Abstract:Additive Manufacturing (AM) is a tool less manufacturing process for building complex components layer by layer. Powder based AM techniques are used for producing porous and dense parts or products by Powder Bed Fusion (PBF) and powder blown Beam Deposition (BD) processes respectively suitable for different applications.

The present review is mainly focused on the commercially available technology of powder blown Beam Deposition (BD) process for producing fully dense parts, and functionally graded materials used in automotive,

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aerospace, defense, and nuclear reactors. The properties of BD parts and comparison of the properties of BD parts with Selective Laser Melting (SLM), casting, and Acram's Electron Beam Melting (EBM) parts are presented. This paper provides an insight into the microstructural characteristics and mechanical properties of parts produced by BD process. A brief discussion is presented on challenging issues and applications of BD process. An attempt is made to present available and under development AM testing standards used to evaluate the properties of AM parts. This review also focused on porous parts produced by BD process for medical applications, and metal foil based BD process. Here, new developments in AM process like hybrid manufacturing and 4D printing are also discussed.

Keyword: Additive Manufacturing, Beam Deposition, Direct Metal Deposition (DMD), Microstructure, Mechanical Properties, 4D Printing.

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Authors: **N. Baaskaran , R. SachinBala, K. Rohan, P. Logesh**

Paper Title: **Design and Fabrication of Shoe Cleaning Cum Polishing Machine**

Abstract:In this work, an endeavour had been made to structure and manufacture a programmed shoe cleaning cum polishing machine which makes the shoe cleaning process simple and efficient. This venture centres on computerization of the shoe polishing and sparkling procedure with no human contribution all the while. The fundamental reason to plan the programmed shoe cleaning machine is to diminish human exertion to zero. The machine comprises of four principle units transportation, cleaning activity area, polishing activity area and control unit which controls the entire activity as indicated by given guidelines.

Keyword: Computerization, no human exertion, polishing area, control unit.

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5. Microcontroller based speed control of induction motor using power line communication Technology Apoorva S Biradar1, Nagabhushan patil2 1P G scholar, 2Professor, 1,2EEE department, P.D.A College of engineering, Gulbarga, Karnataka, India.

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Authors: **Kumaraguru P., V. Elantamilan D.**

Paper Title: **An Information Secure Attribution Model for Observing Spurious Drugs in Health Care Organization**

Abstract:The goal of the paper is to propose an appropriated secure provenance framework to check the dependability of the medications in the midst of misleading and fake medications. There are various Drug and Cosmetic Acts in the nation for the control of illegal medications however over 58% of the medications are not certified which requires a circulated provenance framework with high level of information security. Aside from the client mindfulness and extreme discipline for such unlawful exercises, an on request administration which will help the end client to know the starting point of the medications, the different changes during preparing and the last vendors. The safe provenance model tends to least loss of security of the pharmaceutical assembling organizations to improve the dependability of the item and furthermore the individuals. The model is actualized as a portable sending model with verified provenance against potential assaults in various health care industry particularly initiating spurious drugs with respect to various scenario.

Keyword: Provenance Framework, Drug and Cosmetic.

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925.

Authors: **Sathiyamoorthy V, Balamurugan S, Sivakumar A, Arumugam K, Palani S**

Paper Title: **Automated Tilt Conveyor for Cylinder Head**

Abstract:Cylinder head is one of the main components of an Automobile Engine. In machine shop there are three bays having a machines in which the cylinder head is machined. Makino machine is one of them where the operations like roughing, semi finish; drilling and tapping are carried out. The component has to be loaded by use of a manipulator in a vertical position into the machine such that its rocker face should be facing the operator. So, the component coming from the previous operation through a conveyor with combustion face on top should be tilted to 90 degree such that its rocker face will be facing the operator in a horizontal position. This tilting process has been carried out manually which results in damage of valve guide and valve seat of a cylinder head. This leads to reduction in quality and productivity and also it results in increased operator fatigue since the cylinder head weighs heavy. There is also a chance that when tilting the component manually the component may fall down and hurts operator which results in increased value of effort and ergonomic index. To overcome this problem our research work a modification is made in the conveyor of the makino machine with a low cost automatic arrangement provided for cylinder head tilting purpose.

Keyword: Automobile, automatic tilting, cylinder head Makino machine.

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926.

Authors: **D. Helen, G. Jijilin Jebho Shebija**

Paper Title: **A Software Defined Network Based Energy-Efficient Model for Internet of Things**

Abstract:Internet of Things (IoT) is a new platform that provides the communication among heterogeneous objects. The aim of theIoT is to allow anything can communicate with anywhere at any time to share the information. Generally, devices in IoT are equipped with limited power. The power failure of single node changes the entire network architecture in the IoT framework. To attain an efficient routing, there is a need to design energy-efficient routing algorithm for IoT heterogeneous objects. The proposed Software Defined Network based Energy-Efficient Routing Protocol (SD-EERP) takes care to reduce energy consumption and transmission overhead of monitoring every device in the IoT paradigm. The aim of the proposed SD-EERP algorithm is to enhance the lifetime of the devices by choosing the energy-efficient path to reach the target device. The proposed model implements the Software Defined Network (SDN) based cluster architecture. The

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cluster head selection is based on residual energy and speed.All the cluster heads connect to the SDN controller to manage the entire network architecture.The simulation results show the proposed algorithm can minimize the energy consumption and increase the packet delivery ratio when compared with SCBRP.

Keyword: Internet of Things, routing, heterogeneous, Software Defined Network, cluster head.

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Authors: **Jaswinder Kaur, Neha Gupta**

Paper Title: **Constructive Neural Network: A Framework**

Abstract:In this paper, two techniques for construction of feedforward neural network are being reviewed: pruning neural network algorithms and constructive neural network algorithms. In pruning method, training starts with a larger than required network and subsequently delete the redundant hidden nodes and redundant weights till there is a satisfactory solution. In the constructive method, training of the network starts with minimum structure and then according to some predefined rule some more layers of neurons are added. A number of major issues are discussed that can be considered while constructing a constructive neural network i.e. how to select network architecture, network growing strategy, weight freezing, optimization technique, activation function and stoppage criteria

Keyword: Neural networks; Pruning algorithm; Constructive algorithm; Optimization technique and Activation function.

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Authors: **Vimochana M, M.R. Bindu**

Paper Title: **Modifiers of Modern Indian Drama**

Abstract:Drama in India has been the mainstream source of entertainment for ages. It is in fact the oldest form of entertainment. It has for centuries survived as a way of life rather than an organised event. Stories from religious scripts were being performed on various events. However the Modern Indian Drama came into existence only in the early eighteenth century. The major factors that created a great impact on the growth of Modern Drama may be considered to be: Colonial Cities, Indigenous Theatres, Playwrights, Ticket. With the development of these concepts Modern Indian Theatre grew substantially.

Keyword: Drama, Modern Indian Theatre, Playwrights, Tickets, Urban Cities

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Authors: **K. G. Suma, G. Sunitha, J. Avanija**

Paper Title: **Accident Prevention and Traffic Control by Otsu Method and Haar-Cascade Hand Detector**

Abstract:The rapid development of economy and continuous improvement of people's purchase ability in every country, purchasing the motor vehicles is increasing rapidly, so as the traffic accidents and accident death rate, which says the road traffic situation in everywhere, is worse day by day. Traffic and Accident control is a complex activity in developing countries shows in increasing number of riders and automobiles every day. The prediction and prevention of traffic accidents is an important part of the traffic safety, the purpose of prediction is to achieve the objective of reducing traffic accidents. The work proposes by using the existing video through the cameras positioned on highways, traffic signal and busy roads that can detect the incidents/events. The system can also be proposed with the ability to read and track the vehicle number helps in searching of vehicles violating the rules by finding the License plate number using Optical Recognition method which finds the alpha numeric character from the segmented image. Counting the vehicles passed through the mentioned place using Haar-cascade hand detector which helps to count the number of vehicles passed through can perform Traffic control system.

Keyword: Image Processing, Pattern Recognition, HAAR- Cascade, OTSU method, Traffic Control.

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Authors: **P V Narendra Kumar, Ch.Chengaiah, G Kiran Kumar**

Paper Title: **Cost & Coal Management of a CFBC Boiler in a Power Station**

Abstract:India, being the world's third most observable customer and third most essential power producer with relentless presented generally sensational of 364.17 GW, contributing 68% of warm Capacity as of 31st October 2019. The dependable report of the International Energy Agency (IEA) shows that general coal use is on the trip again +1.79% showed up contrastingly in relationship with 2018. Consequently, Thermal power passing on stations is essential. For the Simhapuri Thermal Power Station (the one considered in the present assessment), it is seen that, for a progress in Magnetic substance by 2%, the particular coal use expands by about 8%. Suffering, regardless, the trash content is associated by 2%, the particular coal use expands by about 5%. It is in like way observed that, for a 4% improvement in fixed carbon; the particular coal use diminishes by about 25%. Starting now and into the not all that far off it is proposed to present an interfacing with separator at the bed material stacking point. With this foundation of pulling in separator gear saw a yearly electrical vitality sparing farthest point of 116.14Lakh kWh and coal experience resources of 12730 MT. Seen electricalenergy speculation accounts works out to be 5.3 % of the yearly electrical centrality ate up (2158.9 Lakh kWh) during the year Sep 2018 – Aug 2019. Assessed yearly centrality cost sparing point of confinement of Rs. 769.54 Lakhs (counting coal hold saves) works out to be 8.9 % of the yearly significance cost (Rs. 8635.8 Lakhs) for the year Sep 2018 – Aug 2019. The Proposed issue is attempted with MATLAB condition and cost appraisal of warm power plant is disengaged and existing making data. The test results exhibited that the proposed structure gives a feasible system beast experience additional items and essential for suffering assignments.

Keyword: Centrality Situation, fluidized bed, efficiently removes iron particles from material, limit, account between times, MATALB.

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Authors: **M.S.N.G. Sarada Devi, T.V.L.N. Pavan Phani Kumar, G.Yesuratnam**

Paper Title: **Research onWeighted Least Square and Linear State Estimation Methods under Ill Condition of Power System**

Abstract:A Jacobian matrix is said to be ill-conditioned if it is very sensitive to small changes. In this paper, the performance of Weighted Least Square (WLS) and Linear State Estimation (LSE) methods under stressed condition and ill condition of power system are compared. In weighted least square method, real/ reactive power injections/flows with very few bus voltage magnitudes are used to obtain the state vector (bus voltages) for given network model. This method inclined to convergence errors when the system is in stressed state or ill condition state. In Linear State Estimation method, bus voltage and current measurements are used to obtain the state vector. Because of its linear nature, LSE method is suitable under stressed condition/ ill condition of power systems. IEEE 14 bus, 13 bus ill conditioned system and EHV 24 bus systems are used in matlab environment to examine the proposed (LSE) method and simulation results are summarized.

Keyword: State Estimation, WLS, Linear State Estimation.

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Authors: **N. Srilatha, G. Yesuratnam**

Paper Title: **Optimal Location of multi-type FACTS for Power System Security Enhancement**

Abstract:Transmission congestion results from the contingencies in the power system and increasing load demand that has to be supplied through predetermined corridors in case of restructured environment. The Flexible AC Transmission Systems (FACTS) devices when deployed in a power system can result in improving the system performance in terms increased loading capability of transmission lines, reduction in losses, improved stability and security of the system by relieving stress on congested lines. This work deals with congestion management of the power transmission network by employing FACTS devices, with the help of Genetic Algorithm (GA) based optimization algorithm. Optimal location of FACTS placement and optimal parameter settings of these devices are the objectives for the optimization problem. The optimization process aims at maximizing the loading capability by the network by transferring power from overloaded lines to adjacent lightly loaded lines. FACTS devices considered are TCSC, SVC and UPFC for the alleviation of the overload on transmission lines and to reduce overall transmission loss of the system. An IEEE 30-bus system is used to illustrate the effectiveness of the proposed method.

Keyword:congestion management; FACTS; Optimal Location; Genetic Algorithm.

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Authors: **P.Lokender Reddy, G.Yesuratnam**

Paper Title: **Hybrid Bacteria Foraging Particle Swarm Optimization based Optimal Reactive Power Dispatch for the Alleviation of Voltage Deviations**

Abstract:This paper presents a hybrid algorithm for optimal reactive power dispatch by combining two popular evolutionary computation algorithms; Bacterial Foraging algorithm and Particle Swarm Optimization. The Hybrid algorithm combines velocity and position updating strategy of Particle swarm optimization algorithm and reproduction and elimination dispersal of Bacterial foraging algorithm. The proposed algorithm is applied to solve optimal power flow with the objective of minimization of Sum of squares of voltage deviations of all load buses. The proposed approach has been evaluated on a standard IEEE 30 bus test system and 24 bus EHV southern region equivalent Indian power system. The results obtained by the proposed Hybrid algorithm are compared with their basic counter parts and superiority of the proposed hybrid algorithm is demonstrated.

Keyword: Optimal Reactive Power Dispatch, Voltage deviations, Bacterial Foraging Algorithm, Particle Swarm Optimization, Hybrid algorithms.

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Authors: **Pamula Raja Kumari, Polaiah Bojja, P.Bhanu, M.Sri Harsha, M.SaiTeja, B.Aruna**

Paper Title: **Classification of Skin Diseases by Image Processing using Machine Learning Techniques**

Abstract:Dermatological ailments are the most predominant illnesses around the world. Despite being normal, its finding is very troublesome and requires broad involvement with the space. One of the serious issues coming in the therapeutic field is that specialists are not ready to recognize that tainted part which isn't obvious by unaided eyes and along these lines they just work the unmistakable contaminated piece of the skin and this may cause a significant issue like malignancy or any hazardous malady later on. Skin malignancy arrangement framework is created and the relationship of the skin disease picture crosswise over various kinds of neural system is set up. The gathered restorative pictures are feed into the framework, and utilizing diverse picture preparing plans picture properties are upgraded. Valuable data can be separated from these therapeutic pictures and go to the order framework for preparing and testing utilizing MATLAB picture handling tool stash for discovery of dead skin. In any case, a programmed restorative pictures examination framework dependent on proposed AI procedure as Artificial neural systems of PCA with following highlights of the pictures: I. Appropriate Enhancement ii.Feature extraction and choice iii.Grouping.In this manner, the aftereffects of the proposed method utilizing MATLAB programming are completed for investigation which are helpful to the specialist.

Keyword:pathogen detection , Static ,Dynamic ,confusion matrix

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Authors: V.Hariharan, P. Venkataramaiah

Paper Title: Performance Analysis of Copper Absorber Tube Parabolic Collector

Abstract:The solar parabolic trough collector technology is one of the most reliable technologies in the field of solar thermal. This is due to the fact that temperatures as high as 400o C can be achieved using this technology. The energy development from these systems used for hot water production, process steam requirement, power generation and many more. Majorly they have wide applications in cooking. They are also used to generate steam at higher temperatures which is used to run a subsequent engine.

In the present Paper, performance analysis of copper absorber tube parabolic collector is done for different parameters of the system such as Reflector sheet material, heat transfer fluid, Period of Sun Incidence at different levels the output responses such as Out Temperature of heat transfer fluid, Discharge, and Thermal Efficiency are recorded for each run. The optimization method S/N ratio analysis is applied for determining the optimal parameters level for better responses and the optimum results are confirmed experimentally

Keyword:parabolic trough collector, copper absorber tube, Taguchi Design of Experiment, S/N ratio analysis

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Authors: Vanitha Soman , Sudhakar S Mande

Paper Title: Design of a Sampler circuit for Flash ADC using 45nm Technology

Abstract:This paper presents design of a sampler circuit for folding flash ADC. There is a desire for Low power high performance ADC for communication. For low power the size of the ADC should be minimized and for the fast performance flash can be used. Hence to reduce the number of transistors in flash ADC folding network is proposed here. Sampling is the important technique used in the ADC part. In this discussion the sampler circuit includes a differential track and hold switch followed by a variable gain amplifier with a gain of 1 db, a buffer and a folding network. An input voltage of1 V and the sampling frequency of 1GS/s is applied to the sampler circuit. Effective number of bits of more than 5.7 bits is achieved also THD is below -35db in VGA. Buffer achieves a ENOB of 10bits with THD less than -65db. This sampler circuit is designed with the technology of 45nm for coherent sampling. Worst case SNDR is calculated.

Keyword: Variable gain amplifier (VGA), buffer, Effective number of bits (ENOB), Total harmonic distortion (THD).

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Authors: **B. Pragathi1, Deepak Kumar Nayak, Polaiah Bojja**

Paper Title: **Performance and Implementation of Grid Connected Single Phase Photovoltaic System and FPGA-Design Based MPPT**

Abstract:Solar Photo Voltaic system are used for power generation by the process of photovoltaic effect. The solar power is varying continuously on a particular day due the variations in the temperature and irradiances. To overcome the power loss of PV system maximum power point tracking techniques are used to generate maximum solar power . Generally digital signal processors are used for implementing maximum power point tracking algorithms, but the performance is limited. The high degree of flexibility is achieved by the use of field-programmable gate arrays (FPGA) chips. The PV systems are used to provide stable and reliable power. The paper presents the single-phase implementation of the grid connected PV system and FPGS based P&O MPPT algorithm. The proposed system consists of P&O MPPT algorithm for maximum solar power extraction, bi-directional DC-DC converter for is used for controlling the battery. The solar power is used to serve the connected load and the excess power is used for serving grid utility. The single-phase inverter is used for DC-AC conversion. The Xilinx ISE is used for simulation of MPPT algorithm. The grid connected PV system is simulated using MATLAB/SIMULINK.

Keyword: Solar PV system, DC Converter, Inverter, MPPT technique, FPGA.

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Authors: **J.T.Anita Rose, B.Jaison, S.V.S.Harshavardhan, B.Krishna Teja, J.Dinesh Sai**

Paper Title: **Tamil text detection in videos using Gradient Vector Flow and Fuzzy C-Means**

Abstract:In videos, detecting text with multifaceted scenarios is perplexing. Texts in those videos have content full data facts that will be applied for various applications. Here, a system is proposed to enrich the text detection process from video. Here, a new method is implemented that detects Tamil text based on Gradient Vector Flow (GVF) and fuzzy c-means. First the video is split into number of frames. To circumvent temporal redundancy in each frame, a key frame is chosen and the frame where the text be located is identified to be the key frame. The dominant edge pixel is identified in that frame by the sobel edge map. Edge components are detected conforming towards the dominant pixel in sobel detector for constructing Text Candidates (TC).Clustering of a pixel is performed to detect text by using fuzzy c means clustering algorithm. Finally text is detected.

Keyword: Gradient vector flow, Dominant pixel, Text candidate, Fuzzy C-means.

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Authors: **P .Sreenivasulu, S. Varadha Rajan, S. Thenappan**

Paper Title: **Medical Image Compression by Optimal Filter Coefficients Aided Transforms using Modified Rider Optimization Algorithm**

Abstract:Owing to a large amount of images, image compression is requisite for minimizing the redundancies in image, and it offers efficient transmission and archiving of images. This paper presents a novel medical image compression model using intelligent techniques. The adopted medical image compression comprises of three major steps such as, Segmentation, Image compression, and Image decompression. Initially, the Region of Interest (ROI) and Non-ROI regions of the image are split by means of a Segmentation procedure using Modified Region Growing (MRG) algorithm. Moreover, the image compression process begins which is varied for both ROI and Non-ROI regions. On considering the ROI regions, the compression is carried out by Discrete Cosine Transform (DCT) model and SPIHT encoding method, whereas the compression of Non-ROI region is carried out by Discrete Wavelet Transform (DWT) and Merge-based Huffman encoding (MHE) methods. As a main contribution, this paper intends to deploy the optimized filter coefficients in both DCT and DWT techniques. Here, the optimization of both filter coefficients is performed using Modified Rider Optimization Algorithm (ROA) called Improvised Steering angle and Gear-based ROA (ISG-ROA). In the final step, decompression is done by implementing the reverse concept of compression process with similar optimized coefficients. The filter coefficients are tuned in such a way that the Compression Ratio (CR) should be minimum. In addition, the comparative analysis over the state-of-the-art models proves the superior performance of the proposed model.

Keyword: Image compression; Region of Interest; Discrete Cosine Transform, Discrete Wavelet Transform, Filter Coefficients; Modified Rider Optimization Algorithm

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940.	**Authors:**	**N. Prema Kumar, G. Anitha, B. Manthrunaik**	
	Paper Title:	**Renewable Energy-based Induction Motor Water flow control**	
	Abstract:Water flow measurement is very important in some specific applications like water craft, house hold applications, submarine and etc, in some applications renewable energy is used as source because it is pollution free and easily available, Solar panel yield is not sufficient to drive induction motor due to irregular temperature and irradiance, solar panel production improved by boost converter to control by using MPPT Controller, MPPT Controller controlled by different algorithms in that P&O Algorithm is design to maintain constant voltage,		**5394-5399**

induction motor require AC supply but boost converter gives DC supply, to convert DC to AC by using IGBT inverter, water pump is connected to the induction motor through flow sensor, inverter firing angle control PWM technique, that PWM controller design by DSPIC30F4011,flow measurement by yf-s201 flow sensor is used, result compare by Software and hardware.

Keyword: Induction motor, MPPT Controller, Water Pump, Flow Sensor

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5 KhusroKhan , Saurabh Shukla , *Member, IEEE*, and Bhim Singh , *Fellow, IEEE*"Performance-Based Design of Induction Motor Drive for Single-Stage PV Array Fed Water Pumping" IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS, VOL. 55, NO. 4, JULY/AUGUST 2019.
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Authors: **Tee Tze Kiong, Elia Md Zain, Farah Najwa Ahmad Puad, Yee Mei Heong, Nurulwahida Azid**

Paper Title: **Method of Patternmaking in Fashion Institution and Fashion Industry**

Abstract:There are many approaches and procedures that can be used to create patternmaking in higher education institutions and the fashion industry. Literature demonstrates that there are several methods that essentially generate patterns such as draping, flat patterns and Computer Aided Design (CAD) that include 2D and 3D applications. Many Malaysian institutions are studying patternmaking using flat pattern and draping [4], which is different from the fashion industry using CAD software. In order to produce skilled workers in the field of patternmaking, they must learn and apply the pattern-making techniques and methods well so that they do not have any problems when it comes to working in the industry or the education sector. This study describes the basic method, process and CAD software that can be used in the field of patternmaking.

Keyword: Patternmaking, Draping, Higher Education Institution, Fashion Industry, Computer Aided Design (CAD*).*

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Authors: **S. Sivagami , S. Mohanapriya**

Paper Title: **Automatic Detection of Tomato Leaf Deficiency using Soft Computing Technique**

Abstract:Indian Economy mostly depends on Agriculture. Agriculture and its value-added products will occupy considerable amount of gross domestic product (GDP) and provides employment to more than half of the country's workforce. Among all the countries India is one of the world's largest producer of agriculture and horticulture crops. Among all the vegetables Tomato is one of the most important vegetable used to consume all over the world. Disease easily affect the tomato plant due to insects and nutrient deficiency. To detect nutrient deficiency using image segmentation and classification is the main focus of this paper. If detect nutrient deficiency in early stage then he yields increased and the disease caused due to lack of nutrient deficiency also reduced. In this paper k-means and Expectation maximization segmentation algorithms are used for segmentation and SVM classifier used for classification. Based on the results Expectation Maximation provide better result than K-means segmentation.

Keyword:deficiency detection, k-means, Expectation-Maximization, SVM.

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Authors: **Udhaya Kumar. T, Jayadurgalakshmi. M**

Paper Title: **Non Destructive Behavior of Corroded Reinforced Geopolymer Concrete Beams**

Abstract:Corrosion of steel reinforcement bar embedded in geo-polymer material has been an object of study to confirm its technical viability. The available alkalinity of geo-polymer material initially was suspected to be harmful for alkali-silica reaction, but then it was found to be beneficial to maintain passivity of the steel bar in concrete. Many researchers carried out studies on the influence of corrosion on bond, generally developed on the basis of experimental tests in specimens subjected to artificial corrosion. The current density applied to accelerate the corrosion influences the bond strength. Since, natural corrosion develops in a very long time, an artificial corrosion has been provided.

Keyword: Artificial corrosion, Geo polymer, Corrosion, Current density.

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Authors: **P.Subashini, Harinidevi, Aishwaraya, B.Ezhiljoshini**

Paper Title: **Parasite Analyser using Artificial Neural Network**

Abstract:Crop destruction causes so much damage to the crops or agricultural products which causes reduction in the productivity. There are numerous important crops are at risk. Parasites are controlled environmentally by unfriendly pesticides. Once a pest has reached either an economic threshold, or intolerable level action should be taken. Pesticides are used as a control measure while other strategies will not bring the parasite population under the threshold. So, here we use early parasite analyser to detect the parasite in a plant and its location. We use artificial network method to analyse the parasite. ANN technique is used to detect the pest in the field. This method is used to resolve the problem of classification identification, authentication, diagnostics, optimization and approximation.

Keyword: Parasites Analyser , ANN (Artificial neural network)

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Authors: **Nagesh Kumar Pagilla, S.Vijaya bhaskar, P.N. Reddy**

Paper Title: **2D Hypersonic Scramjet Inlet Geometry of Mach 7 using CFD**

Abstract:In the era of space transportations there is a huge demand on space technology to improve on cost reduction and take the heavy loads into space. Thus the load carrying capacities will be increase with this air breathing engines. This work gives a report on the design, analysis of optimal 2D scramjet engine inlet operating at Mach 7 without use of movable geometry. A computational study for scramjet inlet with different ramp angles is carried out. Several cases are considered to compress the air by rounding leading edge without moving the whole cowl up and down, by fixing the cowl lip and assuming axisymmetric inlet with rounded edge. The numerical tests are conducted to obtain maximum total pressure recovery, drag force and outlet Mach number for given flight condition. Two dimensional effects are studied with Navier-strokes approach to compute the pressure and Mach number at a different location. Oblique shock waves, expansion waves and shock wave interactions are primarily focused. Computational Fluid Dynamics (CFD) solver is used; steady flow simulations are carried out for inlet geometries with one, two, three and four ramps. Geometrical shape is redesigned based on oblique shock wave analysis. The corrected model is tested on Fluent with boundary layer considerations that the theoretical analysis is not able to cover. Lastly, a conclusion summarizing the design process is drawn and the optimal model is recommended for the Mach 7 inlet with different ramps with contraction ratio 10. It had been observed that two ramp scramjet inlet model has been preferred to use which has optimum pressure recovery and lower drag.

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Keyword:scramjet, CFD, oblique shockwave, hypersonic

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Authors: **Sunil Bhutada, Allaboina Manisha Yadav, Abhishek Jha, Santi Priyanka Prem, Ruchika Bhutada**

Paper Title: **Digital Classroom Enquiry System**

Abstract:Digital world is the one wherein the ideas and the services are being exchanged through Online medium. In this digital world everyone can get connected with every other person for the process of communication. In the process of digitalization, we have emerged into a new concept of digital class room. This digitalization can be extended outside the classroom which shall make the digital classrooms even smarter. In this paper we propose a system which uses a digital touch screen placed outside a classroom. This touch screen is the communication medium between the students and the teachers. The display screen is designed in such a way that every detail regarding the classroom can be viewed on the display. Just a glance at this digital touchscreen enables the students to understand what is going on in the classroom. This screen is accessible to anyone. The home screen of the display is designed in such a way that it gives the glimpse of the events happening in the classroom.

Keyword: Digitalization, Smart boards, CCTV camera, Smart classroom.

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Authors:	**Varkala Satheesh Kumar, T. Vijaya Saradhi**
Paper Title:	**An Advanced Relevance Feedback Method to Improve Performance of CBIR using Convolutional Neural Network and Comprehensive Values**

Abstract:Content-Based Image Retrieval (CBIR) is extensively used technique for image retrieval from large image databases. However, users are not satisfied with the conventional image retrieval techniques. In addition, the advent of web development and transmission networks, the number of images available to users continues to increase. Therefore, a permanent and considerable digital image production in many areas takes place. Quick access to the similar images of a given query image from this extensive collection of images pose great challenges and require proficient techniques. From query by image to retrieval of relevant images, CBIR has key phases such as feature extraction, similarity measurement, and retrieval of relevant images. However, extracting the features of the images is one of the important steps. Recently Convolutional Neural Network (CNN) shows good results in the field of computer vision due to the ability of feature extraction from the images. Alex Net is a classical Deep CNN for image feature extraction. We have modified the Alex Net Architecture with a few changes and proposed a novel framework to improve its ability for feature extraction and for similarity measurement. The proposal approach optimizes Alex Net in the aspect of pooling layer. In particular, average pooling is replaced by max-avg pooling and the non-linear activation function Maxout is used after every Convolution layer for better feature extraction. This paper introduces CNN for features extraction from images in CBIR system and also presents Euclidean distance along with the Comprehensive Values for better results. The proposed framework goes beyond image retrieval, including the large-scale database. The performance of the proposed work is evaluated using precision. The proposed work show better results than existing works.

Keyword:CBIR, CNN, Alex Net, Feature Extraction, Similarity Distance, Comprehensive Values and Image Retrieval.

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Authors:	**B Ravi Prasad**
Paper Title:	**Performance Optimization Through Data Pipeline in Heterogenious Hadoop Cluster**

Abstract:Big data has received a momentum from both The scholarly group and organisation. The MapReduce version has risen into a noteworthy figuring mannequin on the aspect of large information research. Hadoop, that is an open supply utilization of the MapReduce mannequin, has been generally taken up by the network. Cloud expert businesses, for example, Amazon EC2 cloud have now upheld Hadoop client applications. no matter the whole lot, a key take a seem at is that the cloud educated co-ops do not a have asset provisioning tool to satisfy client occupations with due date prerequisites. As of now, it's miles completely the consumer duty to assess the require degree of property for his or her pastime running in an open cloud. This postulation correct-knownshows a Hadoop execution mannequin that exactly gauges the execution duration of exertions and in a similar manner arrangements the desired degree of property for a vocation to be finished indoors a due date. The proposed mannequin utilizes in the neighborhood Weighted Linear Regression (LWLR) mannequin to assess execution time of a vocation and Lagrange Multiplier device for asset provisioning to fulfill client art work with a given due date. .

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Keyword:similar manner arrangements finished indoors a due date

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949.	**Authors:**	**Ramya R S, Darshan M, Sejal D, Venugopal K R, Iyengar S S, Patnaik L M**
	Paper Title:	**ACTSMLT: Automatic Classification of Text Summarization using Machine Learning Technique**

Abstract:In today's world, due to the steep rise in internet users, Community Question Answering (CQA) has attracted many research communities. In order to provide the correct and perfect answer to the user asked question from a given large collection of text data, understanding the question properly to suggest a precise answer is a challenging task. Therefore, Question Answering (QA) system is a challenging task than a common information retrieval task done by many search engines. In this paper, an automatic prediction of the quality of CQA answers is proposed. This is accomplished by using five well known machine learning algorithms. Usually, questions asked by the user are based on a topic or theme. We try to exploit this feature in our work by identifying the category of the question posted and further map with the corresponding question. Similarly, for the answers posted by the multiple user's are processed as answer for category mapping. Here, the results show that for Question Classification (QA), Linear Support Vector Classification (LSVC) is found to be the best classifier and Multinomial Logistic Regression (MLR) is the most suitable for Answer Classification (AC). The MS Macro dataset is used as the underlying dataset for retrieving and testing the question and answer classifiers. The Yahoo Answers are used as a golden reference during the testing throughout our experiments. Experiments results show that the proposed technique is efficient and outperforms Metzler and Kanungo's (MK++) [1] while providing the best answer summary satisfying the user's queries.

Keyword: Question answering, Answer biased summaries, Information Retrieval, Classification, Document summarization.

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950.	**Authors:**	**Navaneethan.K.S, M.Mohanasundari, Sailendharani.A.P**
	Paper Title:	**Innovations in Public Sector Services to Reduce the Traffic Volume**

Abstract:Coimbatore is the Second largest city of Tamilnadu with all its wealth of IT hubs, Educational

Institutions, and varied business start-ups increasing the population growth of the city by which the city stands as Manchester of South India. The transport structure is in such a way that the city is confined within six arterial roads bordering the city. The city holds 265 bus transports totally with passenger capacity around 0.2 million. Other than bus transports there are many other sources for transport in the city including, auto-rickshaws, share autos, call taxies, Omni buses, self-vehicles like car, bike, and 'n' number of vehicles used by institutions and industries. Since Coimbatore is a well- planned and cleaned city among other metro cities like Bangalore, Kochi, Chennai etc., in South India, the same is destroyed due to annoying vehicular growth in last decades. The city with exaggerated students and IT hands arises a question regarding punctual travel to schools, colleges, offices and rate of accidents in peak hours besides vast transport facilities. Coimbatore ranks 23rd of the country in the fatal accidents faced by motorists and city walkers. The accidents are caused due to increase in vehicle population at the rate of 0.15 million per annum inculcating all buses, 2-wheelers and 4-wheelers. This uncertainty shift from place to place gives a gap for implementation of MRTS in the city of Coimbatore.

Keyword: Traffic demand, Environmental pollution, traffic study, vehicle population and accidents.

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Authors: **Agus Wibowo**

Paper Title: **Communication Concept Between Bluetooth As a Master and Slave To Exchange Digital Information**

Abstract:In this digital era and the increasingly developing human resources, it is possible to create new research in this era of development. One example of its development is the discussion of the concept of serial communication. In technology, we know the name of the serial communication. In today's world serial communication is the forerunner of communication between platforms in general. In this journal we will know what serial communication is, it is a communication method that is carried out one way and the concept of sending data is bit by bit or, in other words serial communication is one method of data communication that is sent over a cable which gets one bit of data in a a certain time simultaneously and alternately. In this study using the main tool namely the HC-05 Bluetooth module which is used as a master and slave.

Keyword:HC-05 Bluetooth Module, Serial Communication, Bit of Data.

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952.

Authors: **S.Radharani, V.B.Narasimha**

Paper Title: **Secure and Selective Cloud Data Auditing using Deep Machine Learning**

Abstract:The tradition of moving applications, data to be consumed by the applications and the data generated by the applications is increasing and the increase is due to the advantages of cloud computing. The advantages of cloud computing are catered to the application owners, application consumers and at the same time to the cloud datacentre owners or the cloud service providers also. Since IT tasks are vital for business progression, it for the most part incorporates repetitive or reinforcement segments and framework for power supply, data correspondences associations, natural controls and different security gadgets. An extensive data centre is a mechanical scale task utilizing as much power as a community. The primary advantage of pushing the applications on the cloud-based data centres are low infrastructure maintenance with significant cost reduction

for the application owners and the high profitability for the data centre cloud service providers. During the application migration to the cloud data centres, the data and few components of the application become exposed to certain users. Also, the applications, which are hosted on the cloud data centres must comply with the certain standards for being accepted by various application consumers. In order to achieve the standard certifications, the applications and the data must be audited by various auditing companies. Few of the cases, the auditors are hired by the data centre owners and few of times, the auditors are engaged by application consumers. Nonetheless, in both situations, the auditors are third party and the risk of exposing business logics in the applications and the data always persists. Nevertheless, the auditor being a third-party user, the data exposure is a high risk. Also, in a data centre environment, it is highly difficult to ensure isolation of the data from different auditors, who may not be have the right to audit the data. Significant number of researches have attempted to provide a generic solution to this problem. However, the solutions are highly criticized by the research community for making generic assumptions during the permission verification process. Henceforth, this work produces a novel machine learning based algorithm to assign or grant audit access permissions to specific auditors in a random situation without other approvals based on the characteristics of the virtual machine, in which the application and the data is deployed, and the auditing user entity. The results of the proposed algorithm are highly satisfactory and demonstrates nearly 99% accuracy on data characteristics analysis, nearly 98% accuracy on user characteristics analysis and 100% accuracy on secure auditor selection process.

Keyword:VM Data Characteristics, Auditor Data Characteristics, Change Frequency, Deep Learning, VM Consolidation.

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953.

Authors: **Shubhangi Gunjal, Yogesh Kumar Sharama, Satish Ramchandra Todmal**

Paper Title: **Energy Consummation in cognitive radio network using Different Methods**

Abstract:The cognitive radio and resource allocation techniques have been proposed for efficiently utilizing the radio resources. Cognitive radio is an emerging technology intended to enhance the utilization of the radio frequency spectrum and allocate the available resources correctly. The cooperative communication system, with the same total power and bandwidth of legacy wireless communication systems, can increase the data rate of the future wireless communication system. A combination of cognitive radio with resource allocation can further improve the future wireless network performance and reduces the energy consummation. Efficient resource allocation in cognitive radio network (CRN) is essential in order to meet the challenges of future wireless networks. In this Paper, we are going to discuss the different Localization Techniques, objectives and protocols used in the literature for resource allocation in CRN. This paper also highlights the use of power control, cooperation types, network configurations, and Energy consummation used in CRN. Finally, directions for future research are outlined of proposed algorithms for energy minimization.

Keyword:CRN, Cooperative communication, Resource allocation algorithms, Energy Consumption.

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954.

Authors:	**Anand Ashok Khatri, Yogesh Kumar Sharama, Satish Ramchandra Todmal**
Paper Title:	**Secure Data Transmission by Detecting Different Attacks in CRN to improve the throughput**

Abstract:Cognitive Radio (CR) is a technology that promises to solve the data transmission problem by allowing secondary users to coexist with primary user without causing any interference to the communication. It means to improve the usage of the radio assets to improve the throughput. Despite the fact that the operational parts of CR are being investigated broadly, its security viewpoints have increased little consideration. In this work, present a CRN architecture , Different Protocol, with complete rundown of major known security dangers and assaults inside a Cognitive Radio Network (CRN). Our goal in this paper is to dissect the distinctive security issues of the primary ongoing advancements of Cognitive Radio Networks with proper resource allocation to improve the throughput.

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Keyword: Cognitive Radio, Cognitive Radio Network, Channel allocation, Protocol, security.

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955.

Authors: **Sandeep Kumar Mohapatra, Uma Sankar Mishra**

Paper Title: **Consumer Strategies for Adoption of Performance Analysis of 4g Mobile Services**

Abstract:We use a preference test to determine the ability of consumers to pay for mobile services enhancements with an emphasis on changes to four-gyms and roaming networks. Increasing mobile Internet speed (eventually, with 4 G), unlimited mobile Internet, improved quality (possible with 4 G) and unrestricted use in two neighboring countries are the characteristics of improved mobile services we are investigating. (unrestricted roaming). The results show that uncontrolled roaming services are most important to people. The next move to do is to increase the speed and infinite attributes at 1 per cent. . The statistically insignificant effect of improved quality at the rate of 5percent indicates that users are satisfied with the current quality level which they achieve with 3G. To research 4 G network recognition of mobile and web consumers. To analyze how the use of 4 G technologies viewed smartphone and internet consumers. Research the factors affecting smartphone and web users ' behavioural expectations (BI) through 4G. Mobile User necessities are rising faster than constantly and the limitations of the existing mobile communication systems have required the researchers to

emanate up with additional advanced and proficient technologies. 4G and 4G-LTE mobile technology is the next step in this trend. This is next generation of wireless networks 4G-LTE that will completely replace 3G networks. it is responsible for its customers with enhanced speed and entirely IP based multimedia services. 4G-LTE is completely approximately an integrated, global network that will be intelligent to afford a complete IP solution where voice, data and streamed multimedia can be specified to users on a basis. But there is a pronounced essential of deploying such technologies that can incorporate entirely these systems into a single combined system. The aim of this paper is to focus the benefits, challenges in deployment and opportunity of technologies. Comparative analysis of 4G-LTE based on performance in new communication trend and generations in India.

Keyword: Video over LTE, 4G-LTE , fifth generation networks

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956.

Authors: **Gajanethi Swathi Kumari**

Paper Title: **Reinventing the workplace –Strategic to Employee Career Development in Indian Telecom Industry-A Research**

Abstract:Indian telecom industry is the world's fastest growing industry with the constant changing technology. The intensive competition of this industry has led community to signify the importance of HR. Today, organizations are searching for most proficient HR in order to recruit and retain them for the growth and development of their organization. In the present study, an effort has been made to examine the Human Resource practices in both the public and private sectors of Indian telecom Industry and also aimed to analyze the impact of HR practices and satisfaction level on employee career development. An interview schedule has been administered on a sample of 89 employees of BSNL and Airtel in Hyderabad. The study was analyzed by

using statistical techniques namely chi-square, multiple regression analysis and Garrette ranking method. The findings of the study revealed that, BSNL employees are older; less qualified have more work experience and technical skills while compared to Airtel. The personnel of Airtel were younger, highly qualified with less work experience and focused both on HR and technical skills. The employees of both the organizations were highly satisfied on career development.

Keyword:employee career development, HR practices, Indian telecom industry and technical skills.

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957.

Authors: **Siddharth Gupta, Avnish Panwar, Silky Goel**

Paper Title: **Classification among Microaneurysms, Exudates, and Lesion free Retinal Regions in the Eye Images using Transfer Learned CNNs**

Abstract:When pancreas fails to secrete sufficient insulin in the human body, the glucose level in blood either becomes too high or too low. This fluctuation in glucose level affects different body organs such as kidney, brain, and eye. When the complications start appearing in the eyes due to Diabetic Mellitus (DM), it is called Diabetic Retinopathy (DR). DR can be categorized in several classes based on the severity, it can be Microaneurysms (ME), Haemorrhages (HE), Hard and Soft Exudates (EX and SE). DR is a slow start process that starts with very mild symptoms, becomes moderate with the time and results in complete vision loss, if not detected on time. Early-stage detection may greatly bolster in vision loss. However, it is impassable to detect the symptoms of DR with naked eyes. Ophthalmologist harbor to the several approaches and algorithm which makes use of different Machine Learning (ML) methods and classifiers to overcome this disease. The burgeoning insistence of Convolutional Neural Network (CNN) and their advancement in extracting features from different fundus images captivate several researchers to strive on it. Transfer Learning (TL) techniques help to use pre-trained CNN on a dataset that has finite training data, especially that in under developing countries. In this work, we propose several CNN architecture along with distinct classifiers which segregate the different lesions (ME and EX) in DR images with very eye-catching accuracies.

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Keyword: Deep Learning, Hardexudates Logistic Regression, Random Forest, Machine Learning, Soft exudates.

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Authors:	**Suvendra Kumar Jayasingh, Jibendu Kumar Mantri**
Paper Title:	**Weather Predictions using Support Vector Machine and Rough Set**

Abstract:Climate modelling and weather prediction, the application of science and technology to predict the state of the atmosphere for a given location is a challenging task for the researchers in this modern age.Now-a-days the soft computing techniques have been evolved which can be used for the prediction of weather with more accuracy and less errors. But, Soft computing technique is a new approach to construct computationally intelligent systems that are supposed to possess humanlike expertise within a specific domain, adapt themselves and learn to do better in changing environments. Hence, this paper tries to analyze soft computing techniques i.e Rough Set and SVM for weather prediction of Delhi and reveals that Rough set exhibits promising result that SVM.

Keyword: Support Vector Machine, Rough Set

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Authors:	**Satyasrikanth Palle, Shivashankar**
Paper Title:	**Delay Analysis of Wireless Cellular Networks for Better Qos**

Abstract:The message for call requests is created by mobile devices during a call which is then sent to a base station (BS). A BS processes the response of a call request and chooses to accept or deny the call. Signals such as location notifications, paging and switching due to user mobility take a significant share of the total traffic

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load within mobile cellular networks. Therefore, between signaling packets, the maximum allowable delays may differ. This time will be delayed because if the time is longer than the allowable pause. The quality of service is therefore reduced, which for service providers is not acceptable. In this paper, we propose an empirical model to determine an overall delay in the processing of wireless cell network signaling packets, which involves the delay in the radio channel and the wired component delay in processing. We are demonstrating the effectiveness of priority processing in reducing handoff delays. We also assess the delay between cells according to their positions in the area and their influence on processing delays by the number of nodes. In addition, we evaluate the difference in delay between cells depending on their position within the network area and how many stations influence time delayed processing.

Keyword: Quality of Service, Handoff delay, mobility, mobile cellular network, signaling.

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Authors: **G. Madhukar, G. Nantha Kumar**

Paper Title: **An Intruder Detection System based on Feature Selection using Random Forest Algorithm**

Abstract:In every part of the world, there is tremendous growth in digital literacy in the present era. People are trying to access internet-based applications with the use of digital machines. As a result, the internet has become a primary requirement for everyone, and most business transactions often take place conveniently across the network. On the other hand, intruders involved in making intrusions and doing activities such as capturing passwords, compromise on the route, collecting details of credit cards, etc. Many malicious activities are taking place over the network due to this intruding activity on the internet. Applications such as host-based Intrusion Detection System (IDS) and network-based IDS have previously been used to control network intruders. Mostly when they come with Encrypted packets, spoofed network ids, these techniques were not able to control intruders promisingly. It is essential to examine these types of attacks periodically to identify patterns of recent attacks. In this paper, the authors have proposed a model based on deep learning by using the NSL – KDD dataset to solve these problems. For later train, the model with data with a random forest classifier algorithm, the principal component analysis applied for feature selection. The model is designed to detect patterns of intruders effectively using the knowledge gained from training data. To detect malicious patterns over the network, the model shows a sufficient accuracy of around 90 percent.

Keyword: Feature selection, Intrusion detection, Random forest, Principle component analysis, NSL-KDD dataset

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Authors:	**M. Venkataiah, G. Veeraswamy, P. Bharath kumar**
Paper Title:	**Geological, Geomorphological and Ground Water Quality in the area of Amaravathi, Guntur District, Andhra Pradesh, India.**

Abstract:The area of Amaravati, a new capital of ithe State of Andhra Pradesh, is located in the Guntur district, where the groundwater has been a potentialiresource to meet several needs due to frequentifailuresi of monsoon, and its quality has been deteriorated under the different environmental conditions. The Amaravati covers an area of about 217 km2 and is distributed in 28 villages in three mandals viz., Mangalagiri, Thullur iand Tadepalle. Agriculture is the main occupation of the people. The climate of the area is dry-humid, with average annual temperatures of 18o to 48oC. The average annual rainfall is about 1,357 mm. Field investigations were conducted in the month of December 2015. The data on rainfall, topographic conditions, soil cover, geomorphological features, geological, structural and hydrogeological conditions, drainage and land use practices was collected. Groundwater samples collected from the field were analyzed for major on chemistry, viz. pH, total dissolved solids (TDS), total alkalinity (TA), total hardness (TH), calcium (Ca), magnesium (Mg), sodium (Na), potassium (K), bicarbonate (HCO3), chloride (Cl), sulphate (SO4), nitrate (NO3) and fluoride (F). Keeping ithe increase of water consumption with respect to the rapid growth population in the near future of the capital area, it is essential to assess the contaminates caused by poor quality of groundwater with respect to drinking purpose and industrial developments. In order to provide this base-line information for the purpose of the decision-making by policy-makers and water-managers.

Keyword: Geomorphology, Geology, Ground water quality, Hydrogeology

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Authors: **CH.Veerendra , K.B.R Prasad Reddy**

Paper Title: **Lane Detection and Lane Change Warning as Advanced Driver Assistance Systems using Computer Vision**

Abstract:Road ways are the life line of any economy, for a country like India where economy isgrowing rapidly it is putting its toll on every sector for meeting the needs of the growing economy. Good's and personal transport are becoming vital with time and money aspects and the roads and vehicles on the roads are expected to perform optimally drastically increasing the speed on the road network and constantly increasing and modifying the infrastructure needed to meet the demands. As the speed of the vehicle increases the accident rate and the damage caused by the collision will also increase. Safety of the road network is not to be compromised and proper systems to ensure the safe passage of the vehicle and proper warning systems are to be implemented. This system should be viable in all the condition and should be cost-effective. In this paper we are implementing a vision based system to identify the lane and other vehicles from the video it captures from a properly calibrated camera mounted on the front side of the vehicle. The system is designed to automatically and continuously detect the lines exploiting the new processing techniques and warning the driver if any other is in the breaking distance of the vehicle or if the vehicle is moving out of the lane. Cost effectiveness of the system is a major aspect as many of the available systems use equipment which very good at performing their task but are not affordable. Effort is put in making the system cost effective and not compromising with the reaction time and accuracy..

Keyword: Area Detection, tracking, vision based tracking, Hough transforms, Driver Assistance, Video Image Processing.

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Authors: **Ramakumar Kommajosyula, Nirupama Bhat, P L S Rao**

Paper Title: **Predictive Analytics based Financial Assistance Model for Chronic Care Patients in India**

Abstract: Indian pharmaceutical industry (IPI) has traversed through many phases and it is in emerging

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phase now (2019). IPI is looking for innovation, creativity, newness in patient connect to perform different activities to achieve their stated goals. According to a recent World Health Organization report, approximately 50% of the people with chronic illness do not take their medication as prescribed [1]. Medication Non-Adherence is a huge problem across the world. Pharmaceutical companies across the world manufacture medicines with set of standard operating procedures, guidelines, quality execution systems, inspection and verification from quality control and quality assurance activities. The very intention of producing medicines is to sell them to the patients who are in need. The last thing Pharmaceutical companies expects from Health Care Professional (HCP) is to write the prescription and patient carrying it to Pharmacy to buy the medicine. The medicines for chronic illness are expensive in general. Despite having the prescriptions for medicines, there are plethora of reasons for Patient not to buy them. One of the most remarkable reason is – 'the medicine costs are exorbitant'. If the medicines are not taken in case of the chronic illness, the patient's quality of life degrades over a period of time, eventually resulting to fatality. This is a known concern to Pharmaceutical companies and new methods are invented to address the need for supporting the Patient at difficult times. This paper made an attempt to introduce predictive analytics based financial assistance model for chronic care patients in India.

Keyword: Chronic Illness, Financial Assistance, Patient Affordability, Predictive Model.

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964.

Authors: **Srikanth Sattenapalli, V. Joshi Manohar**

Paper Title: **Research on Single-Phase Grid Connected PV Systems**

Abstract: The demand for renewable vitality based power production has been increased because of many reasons such as to reduce the level of carbon emission, to minimize the consumption of non-renewable energy source and to maintain the environment pollution free. Among the available renewable resources such as hydroelectric, wind, solar, biomass and ocean, solar energy has gained much attention by researchers in the recent decades all over the world. The abundant availability and increasing global warming threat urge the researchers to develop an efficient solar energy conversion system. This survey purposefully intended to elaborate the significance of solar power system. This system consists of set of a PV array to transform sunlight into electrical power (dc). Then the converter and inverter circuits are utilized to produce stable ac power. To overcome the challenges like non-uniform insolation, temperature and partial shading effects, various artificial intelligence and optimization techniques have evolved to maximize the power output from the panel. Even with recent technological breakthrough the efficiency is still less than 20%.

This survey presents the several existing solar energy conversion systems with its challenges and mitigation methods under different environmental conditions for improving the power output.

Keyword: The abundant availability and increasing global warming

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965.

Authors: **P V Narendra Kumar, ChChengaiah, J V K Prasad**

Paper Title: **A Hybrid Technique for the Performance Optimization in the Combustion Process of a Power Plant Boiler**

Abstract:Coal-based warm power stations are the pioneers in control age in India and are significantly awesome nonlinear structures. The warm introduction data procured from thermal control plant shows that glow rate and evaporator capability is changing consistently and the plant is doubtlessly losing a couple of Megawatts of electric power, and more fuel use as such achieving significantly higher carbon impressions. It is incredibly difficult to examine the rough data recorded step by step during the full power action of the plant in light of the fact that a warm power plant is a staggering structure with an enormous number of parameters. Subsequently there is a prerequisite for nonlinear showing for the power plant execution assessment in order to satisfy the growing needs of money related and operational necessities. The point of this paper is to give a blueprint of a coal-ended power plant, in perspective on real plant data and this fills in as the internal model for estimate of the Heat Rate and Boiler Efficiency. This model of the thermodynamics of a power plant is used to choose the effect of changes in different elements upon the glow rate and evaporator capability utilizing affectability coefficients, which show the heading of progress in the variable that will improve warmth rate and pot adequacy, and thus exhibits the general criticalness of these different components. This information can be used to provide guidance to the plant managers and pros concerning where they should devour their undertakings to improve the glow rate and evaporator viability. Further assortment in these key parameters foreseen by affectability examination helps in extemporization of Heat Rate and Boiler Efficiency.

Keyword: Super basic coal-terminated power unit, fluidized bed boiler, Heat Rate and Boiler Efficiency execution, delicate registering strategies, Artificial Neural Network (ANN) and the Salp Swarm Optimization Algorithm (SSA).

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966. **Authors:** **R.SrinuNaik, Aravelli .S.L.K.Gopalamma**

	Paper Title:	**Dynamic Performance of PV Array fed Vector Drive Unit**

Abstract:In emerging applications of solar powered units the significance of its operation and control plays vital role. Industries to home, in all applications need induction motors due to its robust, simple and reliable.so this type of machines used widely in variable speed applications. In the scenario this paper presents the operation and dynamic performance of vector drive fed by PV array. Any drive unit equipped with power management unit, signal conditioning, drivers and controllers and control unit. This system powered by the excitation from PV array with MPPT controller and the load here is a vector drive. Vector control is advantageous over scalar control due to its low speed regulation, low maintenance and minimum speed at Rated torque and wide base speed range. The proposed system consists of PV array, MPPT Controller, vector controlled drive. Solar panel output boosted using Dc-Dc converter with Maximum power point tracking controller Using Incremental Conductance method and the performance curves(P-V, I-V,V-I) presented. Dynamic modelling and analysis of Individual units and the respective performance curves presented here and the simulations done in MATLAB/SIMULINK Platform.

Keyword:PV array, MATLAB software, MPPT, Vector Control, Induction Motor

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	Authors:	**Ali Najm Abdullah Al Tameemi**
	Paper Title:	**Preventing Accidents and Detecting Traffic Loads on Highways with V2v Communication in VANET**

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Abstract:Road safety became as fundamental problems to the governmental manufacturing of vehicles over the past quarter century. The aggregation of word's vehicles have undergone with amazing improvement, enhancing the activity of density and causing a lot of glitches. In this article, we highlighted the problems of detecting the load of traffic on motorways and suggested a system for detecting and preventing incidents on motorways utlizing ad-hoc networks for vehicles. To do this, we implement a vehicle 2 vehicle connecting scenario using a Weighted Cluster Algorithm (WCA) and calculate the power based on various network parameters. The daily population increase in India is increasing, leading to a massive increase in road traffic. Improving new vehicle development has led organizations, specialists and foundations to concentrate their best to develop the safety of road, which is considered as a crucial thing today.(Panse, 2016).

Keyword:VANET, Ad Hoc Network, D2ITS, ITS, DBCV algorithm

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Authors:	**M.E. Ojewumi, O.O. Olanipekun, O.R. Obanla, E.O. Ojewumi, R.S. Bassey**
Paper Title:	**Production of Candle from Oil Extract of a Legume - Soybean**

Abstract:This research confirmed that candles produced from oil extract of soybeans are eco-friendly and healthier alternatives to commercial candles made from paraffin wax. The soybeans were sorted, washed, crushed, dehulled and grinded prior to extraction to increase the surface area. Soybean oil is about 30% of the total soybean composition. Soxhlet extraction method was used with hexane as solvent. The extracted oil was then solidified with stearic acid to form wax inside a mold. Physical tests were carried out to prove its claims as a safer alternative to paraffin wax. The results supported the claims that soy candles are more economical and produced lesser soot than the paraffin candles.

Keyword: Soybeans, Soxhlet extraction, Oil extract, solvent, Yield

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969.	**Authors:**	**A. Sangeetha, S. Sivaranjani**
	Paper Title:	**Effect of Industrial Waste and Geopolymers on Stabilisation of Expansive Clay**

Abstract:Expansive clay soils are geotechnically problematic in nature as they possess less shear strength, high compressibility and low permeability. This research work was carried out with a view to improve index and engineering properties of expansive soil by stabilizing it with industrial wastes and geopolymers. The industrial wastes such as fly ash, silica fume and sodium-hydroxide were used for the stabilization of expansive soil. the virgin clay soil was tested for its index properties, compaction characteristics and shear strength determination. the stabilization of clay is made by adding and mixing those materials by varying its percentage. In the stabilization of soil with sodium hydroxide, an attempt has been made to study the effect of its molarity on the various properties of the soil. The clay soil stabilized with various materials was also tested for the same properties and that results were compared with that of virgin soil to find the effect of stabilization.

Keyword: Clay, Stabilization, Flyash, Silicafume, Sodium hydroxide.

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970.	**Authors:**	**Mukesh Didwania, Kamal Kishore Khatri**
	Paper Title:	**CFD Analysis of Dynamics of Interaction of ShockWave -Vortex Core over Flapped Wing of Supersonic Aircraft at different angle of attack & Mach number**

Abstract:The objective of this paper was to analysis the condition for the appearance of the many types of interaction of a vortex core with shock wave over a flapped wing of a supersonic aircraft. A five digit NACA 23012 aerofoil was selected for this work. Structured Mesh was generated by Quadrilaterals Method. Steady-state density based implicit solver and K-ω SST turbulent model was selected. Q criterion method with vorticity

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magnitude was used to calculate the vortex core. NACA aerofoil Scaled model was manufactured by using NACA profile for experimental work and CFD results were validated by pressure coefficient calculated by wind tunnel setup. Finally, concluded that weak interaction with no vortex breakdown was observed at M= 1.4 and a strong interaction with a bubble-like vortex breakdown formed at M= 1.8 and It found that when a shock wave interact with vortex core, disturbance is generated, which expands along the shock wave and deformed into many small vortices. The flow field is compressed behind the curved shock wave which is reason of acoustic waves. This principle are related to the shock–turbulence interaction which is one of major source of noise. Also concluded that initially at low angle of attack,it observed a strong organized flow field in the downstream region which is due to less strength of the shock. The development of a transmitted shock wave across the vortex core was observed because of shock scattering phenomenon. The moderate breakdown of the vorticity field that occurs after a very strong shock at M =1.4 also observed and the breakdown was more intense when increased Mach No. up to 1.8. Weak and strong interaction region were observed and three stages of interaction found by the flow field over aerofoil at high Mach No. =1.8.

Keyword: Angle of attack, Deflection Angle, Mach No., Aerofoil, Lift, Drag, Vortex, Shock wave, CFD, NACA.

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Authors: **Vivek S, Sophia M**

Paper Title: **Efficient Management of Egg Shell and Conch Shell Wastes by Utilization as Bio- Fillers in Eco-Friendly Gypsum Mortar**

Abstract:The efficient waste management and recovery of waste materials are the most important goals of sustainable environmental development. The egg shells and conch shells are solid wastes being deposited in enormous amount which creates large disposal problem. In order to examine the possibility of utilizing these wastes for use in building materials the egg shell and conch shell powders were used as partial replacement for the manufacture of eco-friendly bio mortars. The mechanical characterization of the bio mortar produced by substituting finely ground egg shell and conch shell powder at various percentages were quantitatively investigated. The present research work was executed in two groups – the first group of bio mortar consists of raw egg shell and conch shell powder and the second group consists of thermally treated egg shell and conch shell powder as a partial substitute for binder. The results showed that the untreated egg shell and conch shell powder did not cause much improvement in the strength parameters of bio mortar whereas the thermally treated egg shell and conch shell substituted mortar exhibited a significant improvement in the mortar strength. The scanning electron microscopy images also reveal the denser and compact structure of mortar which supports the filling effect caused by these wastes. This improvement in strength was due to the calcite present in the egg shell and conch shell powder. The calcite traces were further confirmed by the FTIR and XRD studies. Thus the usage of these waste materials as binder reduces the manufacture of cement which minimizes the environmental pollution by mitigating the CO2 emissions.

Keyword:egg shell powder; conch shell powder; thermal treatment; calcite; bio –mortar; pollution abatement.

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Authors:	**Satish A. Patil, R. R. Arakerimath**	
Paper Title:	**Optimization of Biodiesel Synthesis using Heterogeneous Catalyst (SiO2) from Karanja Oil by Taguchi Method**	

Abstract:Biodiesel is renewable and environmental friendly fuel which has the capable to gain comparable engine performance. In this experimental study, Karanja oil synthesized by using Transesterification process. Transesterification of Karanja oil to biodiesel using SiO2 as a heterogeneous catalyst is studied using five different parameters and levels each. Minitab is used to fix the orthogonal arrays and Taguchi method is used to analyze the interaction effect for the transesterification reaction. The five different parameters responsible for biodiesel yield are molar ratio of methanol to oil, catalyst concentration, reaction temperature, reaction time and stirring speed. Effect of these parameters has studied on small scale. The biodiesel yield obtained experimentally at optimum conditions are 20% methanol to oil molar ratio, 3% SiO2 catalyst addition, 65ºC reaction temperature, 180 min reaction time and 500 rpm stirring speed is 77%.

Keyword: Transesterification, Biodiesel, SiO2, Heterogeneous catalyst,

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Authors: **Abdullah Musa ,ledumas, Yusri Bin Kamin: Rabiu Haruna, Umar Isa Mohammed, Halliru Shuaibu**

Paper Title: **Assessment of Possessed Generic Green Skills for Green Jobs of Electrical Installation and Maintenance Work Graduates of Technical Colleges in Nigeria**

Abstract:The purpose of this study is to uncover employers' assessment of possessed generic green skills for green jobs of electrical installation and maintenance work graduates of technical college in Nigeria. The study used 120 out of 140 employers of technical College Graduates in Adamawa State. The instrument used for the data collection was a questionnaire. Mean and standard deviation were used to analyze research data. The hypothesis was tested at 0.05 level of significance. The findings reveal that, in the rewinding of electrical machines modules of electrical installation and maintenance work, technical college graduates have adequate skills to work in the industry except in few areas like: conduct of preventive maintenance and testing faults in electrical filing machines' winding, the ability to locate faults in electrical filing machines' winding, carrying out insulation resistance test, interpreting drawings of electrical equipment where they showed averagely adequate and slightly adequate skills. Similarly, from the data obtained and analyzed, the result indicates that the graduates have adequate skills in industrial installation except in few areas like: Ability to handle power transmission equipment and components, maintain simple power tools, to test simple power tools, to interpret drawings of electrical equipment, to read symbols. Therefore, the researchers concluded that technical college graduates have adequate technical skills for green jobs and to work in the industries.

Keyword: Assessment, Possessed Skills, Generic Green Skills, Rewinding of Machines, Technical College Graduates, Industrial Installation

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Authors: **Sanjay Singh, M Prabhahar**

Paper Title: **Effect of Diethyl Ether on Combustion and Emission Characteristics of Biodiesel Blend B20 Algae Oil**

Abstract:Emission of carbon dioxide gases and damages occurring to the protective layers of the atmosphere due to the presence of pollutants like methane, chlorofluoro carbons etc. are the reasons for the Governments to adopt stricter emission norms. In the present situation where global warming is at an alarming level, there is a need to have alternate fuel which can reduce harmful emissions to a considerably low and acceptable level. Blends of B20, B40 and B100 algae oil are tested in variable compression ratio diesel engine and compared with diesel for its combustion, mechanical properties and emission performance. The performances of B20 blend are found closer to the performance of fossil fuel diesel and the blend is found suitable as one of the choice for the alternate fuel. Blend of B20 is further tested by adding 10% diethyl ether and an improvement in mechanical and emission characteristic is observed.

Keyword: Biodiesel, Blend, Brake Power, Carbon Dioxide, Diethyl Ether, Global Warming etc.

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Authors:	**N. P. Dharani, Polaiah Bojja, Pamula Raja Kumari, S. Thenappan**
Paper Title:	**Detection of Breast Cancer by Thermal Based Sensors using Multilayered Neural Network Classifier**

Abstract:Consideration of public health problem issues, one of the most common diseases in public is cancer. Most of the women population is suffering from breast cancer which is the most well known appearance of cancer in metropolitan cities of India and abroad. There many number of imaging modalities to diagnose cancerous cells. Among those, mammography is alone an imaging modality which diagnoses the breast cancer at an early stage. Furthermore, this modality involves X-rays which are more harmful to human health and make the patient inconvenience. Through the mammogram, doctors can analyze, estimate and evaluate the cancer stage so that doctors can give better and correct treatment to the patients. With this mortality and death rates can also be diminished up to some extent. In this paper, the author proposed an intelligent system to identify and find out the severity of breast cancer. By using a thermal based sensor which is of negative Temperature Coefficient (NTC) available with C-MET Thrissur which replaces Mammography. The stage at which the cancer is progressing is classified with the help of Intelligent System Algorithms which works on the temperature data obtained from the thermal device. The data is pre-processed and applied to multilayered backpropogation neural network model. The neural network classifies the preprocessed images into normal, benign and cancer. The output of the network is presented to the doctors through graphs and displays.

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Keyword:breast cancer; thermistor sensor; mammography; NTC

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	Authors:	**Bangar Raju L, Subba Rao K**
	Paper Title:	**Robust Parallel Operated Inverters in Microgrid with SRF(Synchronous Reference Frame) – PLL(Phase Locked Loop) and SRF - Virtual Impedance Compensation Loop for Proportional Load Sharing**

Abstract:: Power flow control is most important in inverter interfaced Microgrids with highly penetrated DERs in islanded mode for their functionality to feed the connected loads. The different types of interfacing inverters connected to DERs, have been discussed for their principle of operation. The conventional inverters with droop control method of, P-f, Q-v alone failed to control with unequal line impedances. New inverters with SRF-virtual impedance compensation and SRF-phase locked loop along with droop characterstics have been implemented for defined functionalities in this paper. The design guidelines have been provided and the results are evaluated in Matlab/ Simulink platform to prove the effectiveness of the methodology.

Keyword:DOE-Dept. Of Energy, US-United States, GHG-Green House Gas, DERs-Distributed Energy Resources , MPPT-Maximum Power Point Tracking, DG-Distributed Generators , P-Active power, Q-Reactive power, ESD-Energy Storage Device, SOC- State Of Charge,. CCM-Current Control Mode, VCM-Voltage Control Mode, DG- Distributed Generators, WT-Wind Turbine

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