



COMPSAC 2016

40th Anniversary

1977 - 2016

June 10-14

Atlanta, Georgia USA

CONFERENCE PROGRAM

IEEE
computer
society



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COMPSAC 2016 Big Data Analytics and Visualization Competition
Presentations during WEDA Symposia sessions 1 and 2
Sunday June 12, 1:30pm and 3:30pm
Location: Augusta
Awards to be announced during WEDA session 4, Monday June 13, 3pm.

Data Science is all about the processes and methods to access and analyze data to gain insights for informed decision making. To promote the awareness and analytic technology of Big Data, the IEEE Big Data Initiative is organizing a Data Analytics Competition. The competition will be held during COMPSAC 2016 and is open to all participants of the conference.

Data

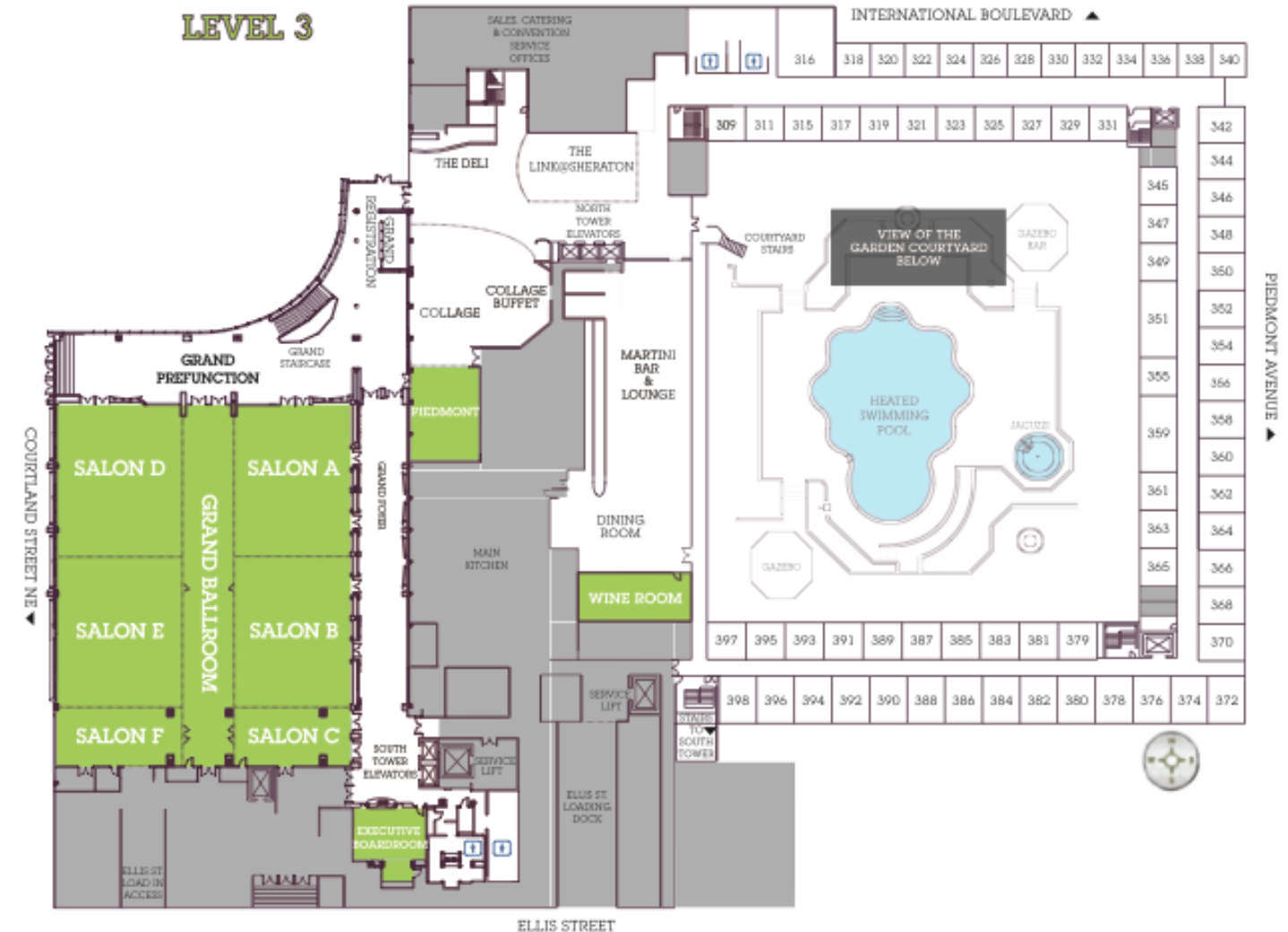
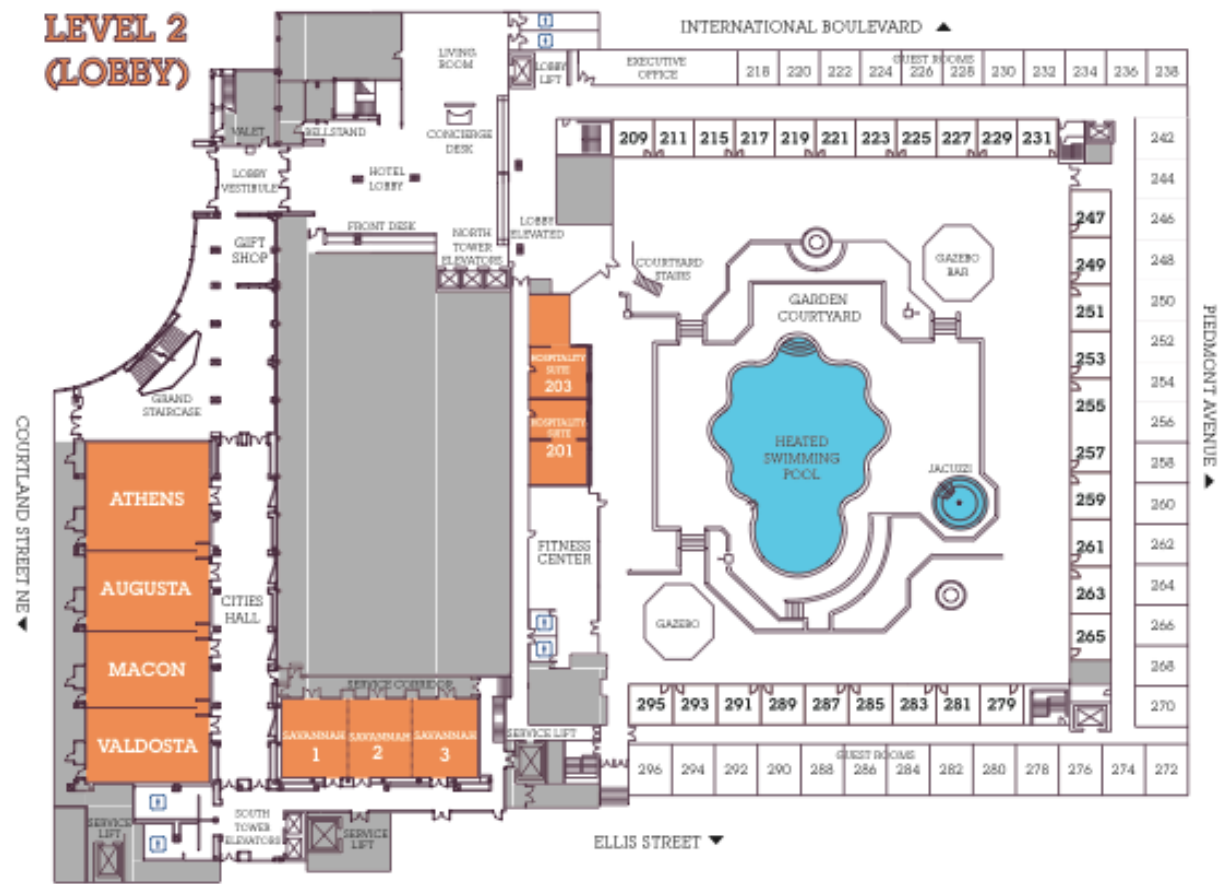
The IEEE’s Big Data Initiative (BDI) aims to promote discussions on the topic; lead and coordinate related activities. To this end, the IEEE big data web portal has been used to promote this initiative by announcing events, related news and providing references to relevant outlets. The committee has been tracking the web site usage for the last two years. The Senior Director of the IEEE Big Data Initiative likes to study their web portal usage to understand the audience of the initiative and potentially improve the management and services of the website. Participants are asked, What insights can you provide by analyzing the datasets above? Insights and suggestions are expected to be creative. Participants may be individuals or a team.

Evaluation and Awards

Participants will present their findings to a judging panel of practitioners. Presentations will be evaluated based on the following criteria:

- Clarity and Relevance of Analysis
- Methodology
- Creative use of data
- Significance of findings
- Delivery of findings

Two awards will be given out, 1) winning student or student team; 2) winning professional or professional team. A judging panel of practitioners will evaluate presentations and each winning team (or individual) will be awarded with \$1,000.





STATE OF GEORGIA
OFFICE OF THE GOVERNOR
ATLANTA 30334-0900

Nathan Deal
GOVERNOR

June 10th, 2016

To: The Attendees of the 40th Annual COMPSAC Conference

GREETINGS:

I am pleased to extend my warmest regards to the attendees of the Computer Society Signature Conference on Computers, Software, and Applications. On behalf of the State of Georgia, it is a pleasure to be a part of your event.

Please allow me to welcome your guests and all other attendees. I applaud COMPSAC for providing a platform for in-depth discussion of challenges in traditional and emerging computing technology fields. I look forward to seeing the positive impact COMPSAC will have on the State of Georgia in the future.

I commend the IEEE Computer Society for organizing this event and send my best wishes for a successful and enjoyable conference.

Sincerely,

Nathan Deal

ND:mco



Sorel Reisman
California State University, USA

Message from the Standing Committee Chair
June, 2016
Sorel Reisman, California State University, USA

Welcome to the 40th anniversary of COMPSAC, the flagship conference of the IEEE Computer Society (CS). COMPSAC, the only CS-sponsored conference completely owned by the CS Board of Governors is celebrating its anniversary here in Atlanta. And we are doing this together with the Computer Society which is celebrating its 70th anniversary here too. In fact, we deliberately chose this venue to coincide with the Computer Society Board of Governors meetings taking place here this week. If you see strange faces wandering the conference meeting halls, please go out of your way to welcome them because they are probably CS Board of Governors members who we invited to join us here at COMPSAC since they are really the official owners of our conference!

For me, this 40th anniversary conference is also unique. I have served COMPSAC in different roles in the past, as an opinionated attendee, as Computer Society President in Munich in 2011, and in 2013 in Kyoto when I was a co-General Chair - a traditional role for the past, Past President of the CS.

Now, in 2016 I have become the third Standing Committee chair in the conference's history, having inherited this wonderful community from my predecessors Stephen Yau and Carl Chang. I cannot praise Steve and Carl enough for having built such a high quality conference together with an incredible community of committed volunteers who make it all possible - volunteers from both the CS and of course from our great friends in the Information Processing Society of Japan (IPSJ) who brought to us their SAINT colleagues a few years ago. We are truly grateful for the support we receive from the Computer Society and President Roger Fujii, and from Tatsuo Tomita, President of IPSJ (and of Fujitsu Laboratories Ltd.), and from Yamazaki Katsuyuki (Yama to his friends!) of Nagaoka University of Technology, all of whose contributions to the COMPSAC community are greatly appreciated.

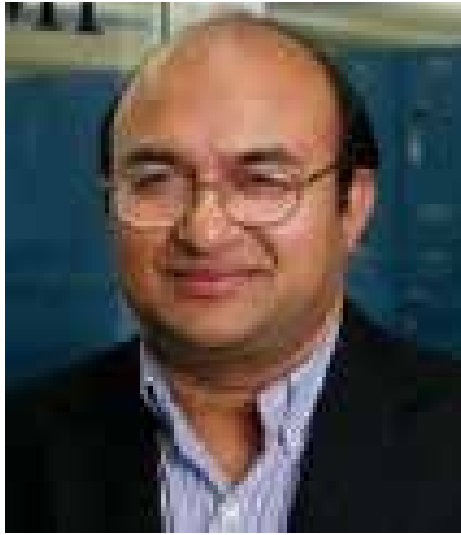
In this, my first year as Standing Committee Chair I have discovered that organizing COMPSAC is a full time, never ending, year-round activity. No sooner do COMPSAC volunteers start working on the next conference than they also have to start planning for the year after that! And of course they do all this tireless work without any remuneration, while also carrying on their full time teaching, research, and professional careers. So while everyone shown on our website and in the program as part of the conference organizing committee deserves all our gratitude, there are some people who have been key in bringing us this year's event. While I might be Standing Committee Chair, the real driving force behind the 2016 conference is our Steering Committee Chair, Sheikh Iqbal Ahamed. Iqbal is the 'glue' that keeps all our committees functioning, in synch, and on time. And best of all, he serves informally and thankfully, as my, and every other volunteer's mentor, ensuring that all the work gets done.

Fortunately for Iqbal, he has a great set of volunteer conference organizers to work with, starting with our General Chairs Ling Liu and Dejan Milojcic, and our Program Chairs-in-Chief (PCICs), Bill Claycomb, Mihhail Matskin, and Hiroyuki Sato. Unfortunately, space prevents me from naming all the wonderful volunteer chairs who work so hard to create this conference, but they are listed on our website under the tab "Organizers." And speaking of the website, we really appreciate webmaster Laurel Ming's responsiveness in managing that site - a noteworthy effort given the frequency of changes and updates she's asked to make.

Bringing you this conference is a lot of work, and it goes on 7x24, with never-ending, worldwide communication among all the committee members as well as with Computer Society staff, especially Carmen Saliba, our CS staff liaison. As of my writing this in March, 2016, since last year's conference in July, 2015, I alone have so far received more than 5000 emails regarding matters related only to this 2016 conference. And that number grows by about 5% each week!

This year for the first time I am happy to report that thanks to the creative suggestions and work of Dejan Milojcic, 2014 Computer Society President, we are introducing an open-to-all, Special IEEE Fellows Program that will explore how these "crown jewels of our organization" can apply their creativity to develop new ideas and initiatives that will ultimately benefit our members and our profession. In this vein, I am also delighted that two other committed volunteers, Ramesh Nair and Prasanth Mohan have come forward to organize the IEEE Young Professionals Special Panel, The IoT and the Connected World We Live In. We are looking forward to these programs and intend that they both become sustaining events at all our future COMPSACs.

So, this year, I hope that you enjoy your visit to Atlanta and that you take advantage of the conference to get truly connected with your colleagues from all around the world to address our theme of "New Challenges for Data, Systems and Applications."



**Message from the Steering Committee Chair
Sheikh Iqbal Ahamed, Marquette University, USA
June, 2016**

Welcome to the 40th edition of this long-standing IEEE Computer Society's Annual International Computer Software and Applications Conference (COMPSAC), officially designated as the IEEE signature conference on computers, software and applications. COMPSAC was first held in 1977 in Chicago. Since its founding, it has become one of the major international forums for academia, industry, and government to discuss research results, advancements and future trends in computer and software technologies and applications. On behalf of the organizing and program committees, I enthusiastically welcome you to Atlanta, USA. This year is very unique that our 40th anniversary coincides with IEEE Computer Society's Board of Governor's meeting, and also the CS's 70th anniversary.

**Sheikh Iqbal Ahamed
Marquette University, USA**

Furthermore, we are very happy that the Information Processing Society of Japan, Korean Institute of Information Scientists and Engineers, China Computer Federation are continuing to work for COMPSAC as technical sponsor. We would like to thank Hewlett Packard Inc. and the IEEE Big Data Initiative and Future Directions Committee directed by IEEE staff member Kathy Grise for

their financial sponsorships.

First of all, I like to express my deepest appreciation and gratitude to Prof. Sorel Reisman and Prof. Carl Chang, current and former Standing Committee Chairs of IEEE COMPSAC. Without their support and assistances I would not be able to organize COMPSAC 2016 so successfully.

I would like to thank Ling Liu, and Dejan Milojcic as General Chairs of COMPSAC 2016. Special thanks are extended to William Claycomb, SATO Hiroyuki and Mihhail Matskin for their extraordinary service as Program Chairs-in-Chief. Stelvio Cimato, Chung Horng Lung, and Motonori Nakamura for their service as Workshops Chairs, Japan; Eun-Sun Cho, Katsuyoshi Iida and Hossain Shahriar for their service as Fast Abstract Chairs, Mohammad Adibuzzaman, Hiroyuki Ohsaki, Satish Puri, Qinghua Lu for their service as Doctoral Symposium Chairs. I want to thank our poster chairs Md Haque, Michiharu Takemoto, Dave Towey. I'd like also to acknowledge the contributions of Yi Pan, Saeid Belkasim, Satish Puri and WenZhan Song for their service as Local Arrangement Chairs, Praveen Madiraju for his service as Publications Chair, Simanta Mitra who serves as Finance Chair and Hua Ming who serves as Finance Vice-Chair, Laurel Ming for her service as Organizing and Web Chair, A.K.M. Jahangir Majumder who served as Registration Chair, and Carmen Saliba who served as Computer Society staff Conference Manager.

Also, thanks to Motonori Nakamura and Yama who had hosted our fabulous Program Committee Meeting at Tokyo. We also thank all the keynote speakers and authors for their contribution to the exciting technical program this year.

We are confident that you will enjoy your visit to Atlanta, USA and that you will learn a lot you're your attendance here. We look forward to your participation in a successful exchange of ideas and initiatives.

**Message from the 2016 General Chairs
Ling Liu, Professor, College of Computing
Georgia Institute of Technology
Dejan Milojcic
Hewlett Packard Labs, USA**

On behalf of COMPSAC 2016 organization, we welcome you to the 40th IEEE International Computers, Software, and Applications Conference (COMPSAC 2016), held in Atlanta, Georgia, USA, June 10-14, 2016. COMPSAC is the IEEE Computer Society Signature Conference on Computers, Software, and Applications. It is a major international forum for academia, industry, and government to discuss research results and advancements, emerging problems, and future trends in computer and software technologies and applications. The technical program includes keynote addresses, research papers, industrial case studies, plenary and specialized panels, fast abstracts, a doctoral symposium, poster sessions, and a number of workshops on emerging and important topics in computers, software and applications. COMPSAC conference series alternates its meeting among sites in Asia, Europe, and North America.

The theme of the 40th COMPSAC is "Connected World: New Challenges for Data, Systems, and Applications." Our world becomes more and more connected every day, with billions of computer applications, devices, and services interacting globally to make our lives safer, convenient, and more enjoyable. Computations, as well as sharable data and applications, are becoming available everywhere. This explosive growth brings us closer together and requires innovative technical solutions. With the rapidly shrinking gap between cyber and physical domains, we face many new challenges and new opportunities for computers, software, and applications. COMPSAC 2016 will provide a platform for in-depth discussion of such challenges both in traditional and in emerging fields such as smart and connected health, wearable computing, the Internet of Things, cyber-physical systems, social networking, and the smart planet. COMPSAC 2016 will be organized as a tightly integrated union of several symposia, each of which focuses on a particular technical segment. Big data is a particularly highlighted theme in our symposia. Furthermore, COMPSAC 2016 will also include a student research symposium competition, fast abstracts sessions, workshops, poster sessions, panels, and keynotes to facilitate discourse on and deepen the understanding of these challenges by furthering the fundamental contributions needed for advances in computing systems. Authors present original, unpublished research work, as well as industrial practice reports.

The COMPSAC 2016 conference offers a very rich technical program, which features research sessions for 49 high quality papers, short paper sessions for 50 short papers, all selected from over 300 submissions. In addition, it features 23 workshops with more than 100 papers, 20 fast abstracts, 8 doctoral symposium papers, 3 keynotes, and 2 plenary panels. Another important new event that COMPSAC 2016 will introduce is the special IEEE Fellows program, on June 11, by Dr. Dejan Milojcic. This one-day program will gather IEEE Fellows to join this one-day meeting and discuss and debate on strategic directions of computing frontiers. The workshop is open to all attendees.

We would like to thank the program chairs for their dedication and effort to compose such a high quality technical program, and thank the COMPSAC steering committee, especially Prof. Sorel Reisman and Prof. Iqbal Ahamed, for their hard work, their dedication, and their strong support.

We trust that you will enjoy the 2016 COMPSAC technical program, the social events, and the interactions with attendees from many different regions and countries world wide.



**Ling Liu
Georgia Institute of Technology**



**Dejan Milojcic
Hewlett Packard Labs, USA**



Hiroyuki Sato
University of Tokyo, Japan

Message from the 2016 Program Chairs-in-Chief
Hiroyuki Sato, University of Tokyo, Japan
Mihhail Matskin, KTH Royal Institute of Technology, Sweden
William Claycomb, Carnegie Mellon University, USA

Welcome to COMPSAC 2016, the 40th IEEE Computer Society International Conference on Computers, Software & Applications, in exciting Atlanta, Georgia, USA. The theme this year, "Connected World: New Challenges for Data, Systems & Applications," was inspired by an ever-increasing number of computer applications, devices, and services interacting globally to make our lives safer, convenient, and more enjoyable. Computations, as well as sharable data and applications, are becoming available everywhere. This explosive growth brings us closer together and requires innovative technical solutions. With the rapidly shrinking gap between cyber and physical domains, we face many new challenges and new opportunities for computers, software, and applications.

This year, COMPSAC provides a forum for in-depth discussion of such challenges both in traditional and in emerging fields, such as smart and connected health, wearable computing, the Internet of Things, cyber-physical systems, social networking, and the smart planet. We have organized a tightly integrated union of several symposia, each of which focuses on a particular technical segment. Furthermore, we have fast abstracts sessions, workshops, poster sessions, panels, and keynote addresses, all of which facilitate discourse on and deepen the understanding of the challenges we face, by furthering the fundamental contributions needed for advances in computing systems.

We reviewed 286 submissions this year. Using a double-blind system, each paper was reviewed by at least three Program Committee members within each symposium. Symposia Chairs then made recommendations to the entire Program Committee for which papers to accept as regular papers, short papers, poster papers, or fast abstracts. After discussion at the Program Committee meeting in Tokyo on February 19-20, 2016, we accepted 51 regular papers (18%), and 50 short papers. Also, 69 papers that were not accepted for the main conference were referred to COMPSAC workshops, where many were accepted.

We extend our heartfelt gratitude to all the authors that submitted works this year, and to the 428 Program Committee Members who volunteered their time and effort to peer-review each paper. Many thanks as well to the Program Committee members and Track Chairs who attended the meeting in Tokyo, as well as to those who organized that event - your generous hospitality was appreciated by all.

The COMPSAC 2016 Program would not be possible without contributions of several dedicated volunteers, many serving in organizing chair roles for components such as panels, doctoral symposium, fast abstracts, posters, proceedings, finance, registration, publicity, organizing, submissions system, and server/systems support. The workshop chairs, Motonori Nakamura, Stelvio Cimato, and Chung -Horng Lung, have done an outstanding job coordinating 24 workshops this year. We also recognize the General Chairs, Ling Liu and Dejan Milojicic, for their support and encouragement. Sheikh Iqbal Ahamed has worked tirelessly and diligently for many months to support our efforts as Standing Committee Chair, and we are very grateful to him for ensuring that we had all the resources needed to complete our tasks. We also recognize the invaluable guidance, advice, support, and voice of reason from Sorel Reisman, COMPSAC Standing Committee Chair.

Please enjoy your time at the conference this year - discuss important topics, interact with others, make new friends, and plan to join us again next year for COMPSAC 2017!



Mihhail Matskin, KTH Royal Institute of Technology, Sweden



Stelvio Cimato, Universita degli Studi di Milano, Italy

Message from the 2016 Workshops Chairs
Stelvio Cimato, Universita degli Studi di Milano, Italy
Chung-Horng Lung, Carleton University, Canada
Motonori Nakamura, National Institute of Informatics, Japan

It is our pleasure to welcome you all to the workshop sessions of the 40th IEEE International Computer Software and Application Conference, COMPSAC 2016, which is held in Atlanta, Georgia, USA.

This year's conference includes 24 workshops covering various aspects of developing computer software and applications. The workshops nicely complement the main conference and they together create an exciting scientific program for 5 days. According to the COMPSAC tradition, workshops are held on the first (June 10) and the last (June 14) days of the conference.

Workshops present a pleasant place for exchange of ideas and results from different aspects of computer software and applications, including software testing, software interoperability and reuse, social and user oriented aspects of software systems and social networks, security, privacy and trust, adaptive systems, middleware architecture, risk management, big data and Internet of things, semantics, modelling, verification, and service oriented computing. Several workshops focus on industrial applications and experience, such as medical computing, embedded systems design, and consumer devices. All these areas correlate well with the topics of the main conference, which creates wonderful opportunities for participants to get a deep and up-to-date overview and understanding of the field.

This year we received a very large number of papers submitted to the workshops. Only 118 of them were selected for presentation. We thank all authors submitted papers to the workshops for their support of the conference. The selection process was carefully carried out by the workshop organizers. We would like to thank organizers of all workshops and the members of workshops PCs for their efforts and an excellent job. We also would like to thank all people involved into the COMPSAC 2016 organizing and steering committees for their help.

We hope that participants of the COMPSAC 2016 will enjoy nice presentations and discussions as well as an inspiring atmosphere of the event.



Chung-Horng Lung
Carleton University, Canada



Motonori Nakamura
National Institute of Informatics, Japan



FRIDAY JUNE 10

Time/Room	Grand Ballroom, Salon A	Grand Ballroom, Salon D	Grand Ballroom, Salon E	Athens	Macon	Piedmont
8:30 - 10:00		ADMNET 1	STA 1	ESAS 1	SSERV 1	
10:00 - 10:30	Break					
10:30 - 12:00	QUORS 1	ADMNET 2	STA 2	ESAS 2	SSERV 2	MIDCCI
12:00 - 1:30	Break for lunch					
1:30 - 3:00	QUORS 2	MVDA 1	CEEP 1	CDS 1	BIOT 1	SAPSE/CFSE 1
3:00 - 3:30	Break					
3:30 - 5:00	QUORS 3	MVDA 2	CEEP 2	CDS 2	BIOT 2	POSTERS LIGHTNING TALKS
6:00 - 7:30	COMPSAC Welcome Reception: Garden Courtyard					

SATURDAY JUNE 11

Time/Room	Grand Ballroom, Salon A	Grand Ballroom, Salon D	Grand Ballroom, Salon E	Athens	Macon	Piedmont	Augusta
8:30 - 9:00	Opening Remarks						
9:00 - 10:00	Keynote: Yale N. Patt - Location: Grand Ballroom, Salon B						
10:00 - 10:30	Break						
10:30 - 12:00	SETA 1	SETA 8	Fellows	ECPE 1	ITIP 1	SEPT 1	DS 1
12:00 - 1:30	Break for lunch						
1:30 - 3:00	Plenary Panel: Rebooting Computing Location: Grand Ballroom, Salon B						
3:00 - 3:30	Break						
3:30 - 5:00	SETA 2	SETA 9	Fellows	ECPE 2	IT Pro	SEPT 2	DS 2

SUNDAY JUNE 12

Time/Room	Grand Ballroom, Salon A	Grand Ballroom, Salon C	Augusta	Athens	Savannah #1	Piedmont
8:30 - 9:00	Opening Remarks					
9:00 - 10:00	Keynote: Kirk Bresniker - Location: Grand Ballroom, Salon B					
10:00 - 10:30	Break					
10:30 - 12:00	SETA 3	HCSC 1	TAIN	ECPE 3	ITIP 2	SEPT 3
12:00 - 1:30	Break for lunch					
1:30 - 3:00	SETA 4	HCSC 2	WEDA 1	NATA 1	YOUNG PROF	SEPT 4
3:00 - 3:30	Break					
3:30 - 5:00	SETA 5	HCSC 3	WEDA 2	NATA 2	ITIP 3	CELT 1
6:00 - 8:30	COMPSAC Banquet - Atlanta Aquarium					

MONDAY JUNE 13

Time/Room	Grand Ballroom, Salon A	Grand Ballroom, Salon C	Augusta	Athens	Savannah #1	Piedmont
8:30 - 9:00	Opening Remarks					
9:00 - 10:00	Keynote: Bob Metcalfe - Location: Grand Ballroom, Salon B					
10:00 - 10:30	Break					
10:30 - 12:00	SETA 6	SETA 10	WEDA 3	NATA 3	MOWU 1	CELT 2
12:00 - 1:30	Break for lunch					
1:30 - 3:00	SETA 7	SETA 11	WEDA 4	NATA 4	MOWU 2	CELT 3
3:00 - 3:30	Break					
3:30 - 5:00	Plenary Panel: Humans and Computing: Beyond the Human-Machine Interface					
5:00 - 6:00	COMPSAC Planning Meeting - all invited Location: Grand Ballroom, Salon A					

TUESDAY JUNE 14

Time/Room	Grand Ballroom, Salon A	Grand Ballroom, Salon B	Grand Ballroom, Salon C	Grand Ballroom, Salon D	Grand Ballroom, Salon E	Savannah #1 & #2
8:30 - 10:00	STPSA 1	DSA 1	UCDAS 1	NETSAP SIMICE 1	FA 1	
10:00 - 10:30	Break					
10:30 - 12:00	STPSA 2	Panel: Big Data in Bio and Health Informatics Location: Grand Ballroom, Salon C				
12:00 - 1:30	Break for lunch					
1:30 - 3:00	STPSA 3		UCDAS 2	NETSAP SIMICE 2	FA 2	MEDI-COMP 1
3:00 - 3:30	Break					
3:30 - 5:00	STPSA 4		UCDAS 3		FA 3	MEDI-COMP 2

COMPSAC Symposia/Topics

CELT: Computer Education and Learning Technologies
ECPE: Embedded & Cyber-Physical Environments
HCSC: Human & Social Computing
ITiP: IT in Practice
MOWU: Mobile, Wearable & Ubiquitous Computing
NATA: Novel Applications & Technology Advances in Computing
SEPT: Security, Privacy & Trust in Computing
SETA: Software Engineering Technology & Applications
TAIN: Technologies & Applications of the internet
WEDA: Web, Big Data & Analytics

COMPSAC Workshops/Topics

ADMNET: Architecture, Design, Deployment and Management of Networks and Applications
BloT: Big Data Management for the Internet of Things
CDS: Consumer Devices and Systems
CEEP: Computing Education - Emerging Practices
CFSE: Computer Forensics in Software Engineering
CORCS: Component-Based Design of Resource-Constrained Systems
DCH: Digital and Connected Health
DSA: Dependable Software and Applications
ESAS: E-Health Systems and Semantic Web
IEESD: Industrial Experience in Embedded Systems Design (IEESD 2016)
MediComp: Medical Computing
mHealth: mHealth Technology for Individuals, Groups and Communities
MidCCI: Middleware for Cyber Security, Cloud Computing and Internetworking
MVDA: Modeling and Verifying of Distributed Applications
NETSAP: Network Technologies for Security, Administration and Protection
QUORS: Quality Oriented Reuse of Software
SAPSE: Security Aspects in Processes and Services Engineering
SIMICE: Secure Identity Management in the Cloud Environment
SSERV: Social Services through Human and Artificial Agent Models
SSS: Service Science Systems
STA: The 8th IEEE International Workshop on Software Test Automation
STPSA: Security, Trust and Privacy for Software Applications
UCDAS: User Centered Design and Adaptive Systems

Friday June 10

8:30 - 10:00am

ADMNET: The 4th IEEE International Workshop on Architecture, Design, Deployment and Management of Networks and Applications

Session 1

Location: Grand Ballroom, Salon D

Session Chair: Takashi Yamanoue, Fukuyama University, Japan

Design and Implementation of Secure Prefetch Mechanism for Multi-step Name Resolution in DNS

Yong Jin, Kenji Fujikawa, Hiroaki Harai, Masataka Ohta

Design and Implementation of A Client Based DNSSEC Validation and Alert System

Kunitaka Kakoi, Yong Jin, Nariyoshi Yamai, Naoya Kitagawa, Masahiko Tomoishi

Robustness of Networks with Skewed Degree Distributions under Strategic Node Protection

Yui Kazawa, Sho Tsugawa

Multi-layer and Multi-domain Network Orchestration and Provision of Virtual Views to Users

Yohei Iizawa, Kazuya Suzuki

STA: The 8th IEEE International Workshop on Software Test Automation

Session 1: Fault Management and Ranking

Location: Grand Ballroom, Salon E

Session Chair: Rajesh Subramanyan, Siemens, USA

Fault Localization Method Generated by Regression Test Cases on The Basis of Genetic Immune Algorithm

Hui Zhang

Automation Architecture for Bayesian Network Based Test Case Prioritization and Execution

Ekincan Ufuktepe, Tugkan Tuglular

ESAS: The 11th IEEE International Workshop on E-Health Systems and Semantic Web

Session 1

Location: Athens

Session Chair: Atilla Elci, Aksaray University, Turkey

Fetal Heart Rate Monitoring System (FHRMS)

Duygu Celik Ertugrul, Hakan Kanmaz, Mehmet Ugur Yuksel, Atilla Elci, Mehmet Ertugrul

QR-code based Hospital Systems for Healthcare in Turkey

Vassilya Uzun

SSERV: The 3rd IEEE International Workshop on Social Services through Human and Artificial Agent Models

Session 1: Artificial Agent Models

Location: Macon

Session Chair: Kenichi Yoshida, Tsukuba University, Japan

Stock Price Regression Based on Order Book Information
Kenichi Yoshida, Akito Sakurai

Analysis of the Influences of Central Bank Financing on Operative Collapses of Financial Institutions using Agent-based Simulation
Takamasa Kikuchi, Masaaki Kunigami, Takashi Yamada, Hiroshi Takahashi, Takao Terano

Methods to Predict the Number of Software Faults Using Weibull Distribution
Koji Tanaka, Kazuhiko Tsuda

10:00 – 10:30:

Break

10:30 – 12:00

QUORS: The 10th IEEE International Workshop on Quality Oriented Reuse of Software
Session 1: Quality and Efficient Development
Location: Grand Ballroom, Salon A
Session Chair: Hongji Yang, Bath Spa University, UK

An Eye Tracking Research on Debugging Strategies Towards Different Types of Bugs
Fei Peng, Chunyu Li, Xiaohan Song, Wei Hu, Guihuan Feng

Cost-Effective Supervised Learning Models for Software Effort Estimation in Agile Environments
Kayhan Moharreri, Alhad Sapre, Jayashree Ramanathan, Rajiv Ramnath

A Study to Improving Anomaly Detection in a TS Workflow
Feng-Jian Wang, Thanh-Thuy Thi Nguyen, Tennyson Lu

New Graphic Polyglot Concept of Programming
Igor Velbitskiy

ADMNET 2: The 4th IEEE International Workshop on Architecture, Design, Deployment and Management of Networks and Applications
Location: Grand Ballroom, Salon D
Session Chair: Yong Jin, Tokyo Institute of Technology, Japan

On the Impact of Cut-Through Links in Epidemic Broadcasting
Hiroyuki Ohsaki, Yasuhiro Yamasaki

Automated Inference of Dependencies of Network Services and Applications via Transfer Entropy
Karim ElDefrawy, Tiffany Kim, Pape Sylla

Toward the Support of Challenging Service Level Agreements (SLAs) in Manual and Context-Dependent Activities
Raef Mousheimish, Yehia Taher, Karine Zeitouni

STA: The 8th IEEE International Workshop on Software Test Automation
Session 2: Human Interactions and Testing
Location: Grand Ballroom, Salon E
Session Chair: Rajesh Subramanyan, Siemens, USA

Challenges in Testing the Design of Secure Complex Critical Public Infrastructure
Invited Talk: Aditya Mathur, Singapore University of Technology and Design; Purdue University, USA

Event Handler Tree Model for GUI Test Case Generation
Bin Wang, BeiBei Yin, KaiYuan Cai

ESAS: The 11th IEEE International Workshop on E-Health Systems and Semantic Web
Session 2
Location: Athens
Session Chair: Dyugu Celik Ertugrul, Istanbul Aydin University, Turkey

A Search Service for Food Consumption Mobile Applications via Hadoop and MapReduce Technology
Mehmet Akif Cifci, Duygu Celik Ertugrul, Atilla Elci

An Open-Source ACASI Design for Social Collaborative mHealth
Saranya Radhakrishnan, Zachary Stecher, D. Cenk Erdil

SSERV: The 3rd IEEE International Workshop on Social Services through Human and Artificial Agent Models
Session 2
Location: Macon
Session Chair: Takao Terano, Tokyo Institute of Technology, Japan

A Study on Agent-Simulation of Waiting Behaviours inside Transfer Station Space
Takayuki Mizuno, Masahiro Shohmitsu, Toshiyuki Kaneda

Improving a Cellular Manufacturing System through Real Time-Simulation and -Measurement
Masaki Kitazawa, Satoshi Takahashi, Toru B. Takahashi, Atsushi Yoshikawa, Takao Terano

Proposal for a Cumulative Deposit Rate Prediction Method for Payment after Delivery in the Mail Order Business
Hiroyuki Azuma, Nobuo Suzuki, Tohru Matsuodani, Kazuhiko Tsuda

MidCCI: The 2nd IEEE International Workshop on Middleware for Cyber Security, Cloud
Session 1: Computing and Internetworking
Location: Piedmont
Session Chair: Hideaki Goto, Tohoku University, Japan

Welcome Address
Hideaki Goto, Yuuichi Teranishi, Jiann-Liang Chen, Shuo-Yan Chou

An Authentication Federation Proxy Which Conceals Attributes and Authorization Policies Each Other
Yasuo Okabe, Takaaki Komura, Hiroyuki Sato, Kazutsuna Yamaji, Motonori Nakamura

Byzantine Fault Tolerant Software-Defined Networking (SDN) Controllers
Karim ElDefrawy, Tyler Kaczmarek

12:00 – 1:30

Break for Lunch

QUORS: The 10th IEEE International Workshop on Quality Oriented Reuse of Software**Session 2: Emerging Reuse****Location: Grand Ballroom, Salon A****Session Chair: Lin Liu, Tsinghua University, China***Knowledge Management Framework for Software Reuse*

Simone Maccanti, Jameela Al-Jaroodi, Arif Sirinterlikci

A Methodology to Automate the Selection of Design Patterns

Shahid Hussain, Jacky Keung, Arif Ali Khan, Kwabena Ebo Bennin

Integrating Pattern-based Formal Requirements Specification in an Industrial Tool-chain

Predrag Filipovikj, Trevor Jagerfield, Mattias Nyberg, Guillermo Rodriguez-Navas, Cristina Seceleanu

From Data Reuse to Knowledge Reuse in Web Applications: A Survey

Jianfeng Chen, Hongji Yang

MVDA: The 5th IEEE Workshop on Modeling and Verifying Distributed Applications**Session 1****Location: Grand Ballroom, Salon D****Session Chair: Yousra BenDaly Hlaoui, University of Tunis, Tunisia***Migrating a Bare PC Webserver to a Multi-core Architecture*

Hojin Chang, Ramesh Karne, Alexander Wijesinha

Hierarchical Checkpoint Protocol in Data Grids

Rahma Souli-Jbali, Minyar Sassi Hidri, Rahma Ben Ayed

Reachability Analysis of Multithreaded Programs using Communicating Rewriting Systems

Brahim Nasraoui, Riadh Robbana

CEEP: The 1st IEEE International Workshop on Computing Education – Emerging Practices**Session 1****Location: Grand Ballroom, Salon E****Session Chair: Henry Chan, The Hong Kong Polytechnic University, Hong Kong***Teaching Secure Cloud Computing Concepts with Open Source CloudSim Environment*

Yong Shi, Dan Lo, Kai Qian

Hardware Attacks and Security Education

Dan Chia-Tien Lo, Kai Qian, Wei Chen

Panel on Open Education Resources (OER) for Computing Education

Panel Moderator: Simanta Mitra, Iowa State University, USA

Panelists: Sorel Reisman, California State University, USA

Henry Chan, The Hong Kong Polytechnic University, Hong Kong

Edmundo Tovar, Universidad Politécnica de Madrid, Spain

CDS: The 4th IEEE International Workshop on Consumer Devices and Systems**Session 1****Location: Athens****Session Chair: Ryoza Kiyohara, Kanagawa Institute of Technology, Japan***Truthful Incentive Mechanism for Mobile Crowdsensing with Smart Consumer Devices*

Ozlem Zehra Ozyagci, Mihhail Matskin

Social Media Mediation System for Closing Inter-generational Communication Gap

Toru Kobayashi, Kazushige Katsuragi, Kenichi Arai, Tomoya Sakai, Makoto Fujimura

Configurations of Micro EV Quick-Charging System with EDLC Storage

Seiya Tanaka, Nobuo Fukujyu, Shigeo Kaneda

Remote-controlled Micro EV System using Downward-facing Wide-angle Video Camera

Naoya Tsujita, Masato Mitsuno, Yoshiki Usui, Shigeo Kaneda

BIOT: The 3rd IEEE International Workshop on Big Data Management for the Internet of Things**Session 1****Location: Macon****Session Chair: Susumu Takeuchi, NTT, Japan***Distributed Graph Path Queries using Spark*

Janani Balaji, Rajshekhar Sunderraman

IEEE1888 over WebSocket for Communicating Across a Network Boundary

Yuya Tarutani, Shuuichirou Murata, Kazuhiro Matsuda, Morito Matsuoka

Design and Implementation of Global Reference and Indirect Method Invocation Mechanisms in the Dripcast

Ikuo Nakagawa, Masahiro Hiji, Hiroshi Esaki

SAPSE: The 8th IEEE International Workshop on Security Aspects in Processes and Services Engineering*held jointly with***CFSE 1: The 8th IEEE International Workshop on Computer Forensics in Software Engineering****Session 1****Location: Piedmont****Session Chair: Stelvio Cimato, Dipartimento di Informatica, Università degli studi di Milano, Italy***Measuring Software Assurance*

Carol Woody, Robert Ellison, William Nichols

A Reference Architecture for supporting Secure Big Data Analytics over Cloud Enabled Relational Databases

Invited Talk: Alfredo Cuzzocrea, University of Trieste, Italy

EAR: An Email Attachment Receiver to Search Concerning Images in the Context of Insider Threat

Jason Clark

A Combination of Active and Passive Video Steganalysis to Fight Sensitive Data Exfiltration through Online Video

Christopher Francis-Christie, Dan Lo

3:00 - 3:30:

Break

3:30 - 5:00

QUORS: The 10th IEEE International Workshop on Quality Oriented Reuse of Software

Session 3: Exploratory Study

Location: Grand Ballroom, Salon A

Session Chair: Xiaodong Liu, Edinburgh Napier University, UK

Industrial Experience with Open Source Software Process Management

Oliver Fendt, Michael Jaeger, Ricardo Jimenez Serrano

DEEPC: Dynamic Energy Profiling of Components for CBSD

Samuel Chinenyeze, Xiaodong Liu, Ahmed Al-Dubai

An Online Identity and Smart Contract Management System

Affan Yasin and Lin Liu

MVDA: The 5th IEEE Workshop on Modeling and Verifying Distributed Applications

Session 2

Location: Grand Ballroom, Salon D

Session Chair: Ahlem Ben Younes, University of Tunis, Tunisia

A Specification and an Execution Approach for Flexible Workflow Applications of Cloud Service

Imen Ben Fradj, Yusra Bendaly Hlaoui, Leila Jemni Ben Ayed

A Specification and Verification Approach of Flexible Workflow Applications of Cloud Services

Based on Meta-model Transformation from the SequenceDiagrams To EventB

Yusra Bendaly Hlaoui, Ahlem Ben Younes, Manel Fathalli

CEEP: The 1st IEEE International Workshop on Computing Education - Emerging Practices

Session 2

Location: Grand Ballroom, Salon E

Session Chair: Tiziana Margaria, University of Limerick, Ireland

Implementation of Active Learning Methods in Mechanical Engineering Education to Enhance Students' Performance

Sachin Kamble, Bhalchandra Tembe

A Panoramic Geological Images Sharing System Using Image-Based Rendering

Chunyan Deng, Zhiguo Zhou, Wenqing Li, Boyu Hou

Internet of Things-based Framework to Facilitate Indoor Localization Education

Amir Atabekov, Jing Selena He, Patrick Otoo Bobbie

A Summer Computing Camp Using ChainReaction and jABC4

Clare McInerney, Anna-Lena Lamprecht, Tiziana Margaria

CDS: The 4th IEEE International Workshop on Consumer Devices and Systems

Session 2: Consumer Networks

Location: Athens

Session Chair: Toru Kobayashi, Nagasaki University, Japan

Management of OSGi Device Using PUEC Protocols and Metadata

Takeshi Kato, Daigo Matsubara, Naofumi Yoshida, Norihiro Ishikawa

Optimizing Packet Transmission Scheduling for Enhanced Web QoE in Wireless LAN

Teruhisa Tajima, Yasuo Okabe

Improved Software Updating for Automotive ECUs - Code Compression -

Yutaka Onuma, Masanao Nozawa, Yoshiaki Terashima, Ryoza Kiyohara

BIOT: The 3rd IEEE International Workshop on Big Data Management for the Internet of Things

Session 2

Location: Macon

Session Chair: Hideya Ochiai, The University of Tokyo, Japan

An Intelligent Microgrid Energy Management System Using Distributed Database and IEEE1888

Yuanbo Zhu, Dominic Maurath, Longqi Zhang, Leong Hai Koh, Fook Hoong Choo, Nanmagalam Devika

SPIRE: Scalable and Unified Platform for Real World IoT Services with Feature Interaction

Susumu Takeuchi, Michiharu Takemoto, Masato Matsuo

Poster Lightning Talks

Location: Piedmont

Session Chair: Michiharu Takemoto, NTT Labs., Japan

Self-Refining Skip Graph: A Structured Overlay Approaching to Ideal Skip Graph

Takafumi Kawaguchi, Ryohei Banno, Masashi Hojo, Kazuyuki Shudo

Development of Home Management System Using Arduino and AppInventor

Wook-Sung Yoo, Sameer Shaik

6:00 - 7:30

COMPSAC Welcome Reception

Location: Garden Courtyard, Sheraton Hotel

Sponsored by HP

Saturday June 11

- 8:30 - 8:45** **Opening Remarks**
Sorel Reisman, Standing Committee Chair
Sheikh Iqbal Ahamed, Steering Committee Chair
Ling Liu, Dejan Milojicic, General Chairs
Location: Grand Ballroom, Salon B
- 8:45 - 9:00** **Program Overview**
William Claycomb, Mihhail Matskin, Hiroyuki Sato, Program Chairs in Chief
- 9:00 - 10:00** **Keynote: Yale N. Patt, University of Texas at Austin, USA**
If Moore's Law Does in Fact End, Whose Job Is It to Pick Up the Slack?... And How?
Location: Grand Ballroom, Salon B
Session Chair: Tom Conte, Georgia Institute of Technology, USA
- 10:00 - 10:30** **Break**
- 10:30 - 12:00** **SETA: Software Engineering Technology and Applications**
Session 1: Static Analysis
Location: Grand Ballroom, Salon A
Session Chair: Byron J. Williams, Mississippi State University, USA
- Automatic Fix for C Integer Errors by Precision Improvement*
Xi Cheng, Min Zhou, Xiaoyu Song, Ming Gu, Jianguang Sun
- JRed: Program Customization and Bloatware Mitigation based on Static Analysis*
Yufei Jiang, Dinghao Wu, Peng Liu
- Condensing Class Diagrams With Minimal Manual Labeling Cost*
Xinli Yang, David Lo, Xin Xia, Jianling Sun
- SETA: Software Engineering Technology and Applications**
Session 8: Formal Methods
Location: Grand Ballroom, Salon D
Session Chair: Jacky Keung, Hong Kong City University
- Scope of Selection Nodes in Object Oriented Programs*
Hend Alrasheed, Austin Melton
- Improved Co-Simulation with Event Detection for Stochastic Behaviors of CPSs*
Jufu Liu, Kaiqiang Jiang, Xiao Wang, Bei Cheng, Dehui Du
- LogOptPlus: Learning to Optimize Logging in Catch and If Programming Constructs*
Sangeeta Lal, Neetu Sardana, Ashish Sureka
- Modeling and Verifying HDFS Using CSP*
Wanling Xie, Huibiao Zhu, Xi Wu, Shuangqing Xiang, Jian Guo
- Fellows Program**
Location: Grand Ballroom, Salon E
Session Chair: Dejan Milojicic, HP Labs

- ECPE: Embedded and Cyber-physical Environments**
Session 1: Model-driven Development
Location: Athens
Session Chair: Tiberiu Seceleanu, ABB Corporate Research, Sweden

Generalized Attacker and Attack Models for Cyber Physical Systems
Sridhar Adepu, Aditya Mathur

Model-driven Optimization of Data-Adaptable Embedded Systems
Adrian Lizarraga, Roman Lysecky, Jonathan Sprinkle

- ITiP: IT in Practice**
Session 1: Healthcare Support Systems
Location: Macon
Session Chair: Steve Diamond, Vice Chair, IEEE Future Directions Committee

Data-Intensive Research & Scientific Discovery
Invited Talk: Simon Liu, Associate Administrator, Agricultural Research Service, U.S. Department of Agriculture

A Healthcare Support System for Assisted Living Facilities: an IoT Solution
Fulvio Corno, Luigi De Russis, Alberto Monge Roffarello:

A Case Study on SoaML to Design an Electronic Health Record Application Considering Integration of Legacy Systems
Joyce M.S. Franca, Josimar de S. Lima, Michel S. Soares:

- SEPT: Security, Privacy and Trust in Computing**
Session 1: Attack Protection
Location: Piedmont
Session Chair: Mohammad Zulkernine, Queen's University, Canada

Data Security and Privacy Concepts, Approaches, and Research Directions
Invited Talk: Elisa Bertino, Purdue University

EmailProfiler: Spearphishing Filtering with Header and Stylometric Features of Emails
Sevtap Duman, Kubra Kalkan Cakmakci, Manuel Egele, William Robertson, Engin Kirda

How Secure is the Healthcare Network from Insider Attacks? An Audit Guideline for Vulnerability Analysis
Ragib Hasan, Shams Zawoad, Shahid Noor, Md Munirul Haque, Darrell Burke

- Doctoral Symposium**
Session 1
Location: Augusta
Session Chair: Satish Puri, Georgia State University, USA

Performance Comparison of Shortest-Path Routing and Optimal Detour Routing in Content-Centric Networking
Ryo Nakamura, Hiroyuki Ohsaki

Analysis of Message Delivery Delay in Geographic DTN Routing
Daiki Matsui, Yasuhiro Yamasaki, Hiroyuki Ohsaki

Adaptive Reasoning in the Presence of Imperfect Security Requirements
Sara Sartoli, Akbar Namin

12:00 - 1:30pm

Break for lunch

1:30 - 3:00

Plenary Panel: Rebooting Computing
Location: Grand Ballroom, Salon B
Session Chair/Moderator: Thomas M. Conte, 2015 IEEE Computer Society President, Georgia Institute of Technology, USA

Panelists: Yale N. Patt, Keynote Speaker of COMPSAC 2016, University of Texas at Austin, USA
Jean-Luc Gaudiot, 2017 IEEE Computer Society President, University of California Irvine, USA
Kunio Uchiyama, IEEE Computer Society BoG, Chief Scientist at Hitachi, Ltd., Japan
Vladimir Getov, IEEE Computer Society BoG, University of Westminster, UK
Hironori Kasahara, IEEE Computer Society Ex-BoG, Waseda University, Japan

3:00 - 3:30

Break

3:30 - 5:00

SETA: Software Engineering Technology and Applications
Session 2: Operation and Management
Location: Grand Ballroom, Salon A
Session Chair: Fengjian Wang, National ChiaoTung University, Taiwan

Reliability Analysis for Software Cluster Systems based on Proportional Hazard Model
Chunyan Hou, Chen Chen, Jinsong Wang, Kai Shi

Determine Configuration Entry Correlations for Web Application Systems
Wei Chen, Heng Wu, Jun Wei, Hua Zhong, Tao Huang

An Algorithm and Case-Study on Improving the Goodness of Software Process Models Generated by Mining Event-Log Data in Issue Tracking Systems
Prerna Juneja, Divya Kundra, Ashish Sureka: Anvaya

SETA: Software Engineering Technology and Applications
Session 9: Empirical Study
Location: Grand Ballroom, Salon D
Session Chair: Jing Xu, Nankai University, China

Automated Identification of High Impact Bug Reports Leveraging Imbalanced Learning Strategies
Xinli Yang, David Lo, Qiao Huang, Xin Xia, Jianling Sun

Situation-Oriented Requirements Elicitation
Nimanthi L. Atukorala, Carl K. Chang, Katsunori Oyama

DR PSF: Enhancing Developer Recommendation By Leveraging Personalized Source-Code Files
Hui Yang, Xiaobing Sun, Bin Li, Yucong Duan

Modeling and Analyzing Cost and Utilization Based Task Scheduling for Cloud Application
Guisheng Fan, Huiqun Yu, Liqiong Chen, Dongmei Liu

Fellows Program
Location: Grand Ballroom, Salon E
Session Chair: Dejan Milojevic, HP Labs

ECPE: Embedded and Cyber-physical Environments
Session 2: System Design and Tools
Location: Athens
Session Chair: Bruce McMillin, Missouri University of Science & Technology, USA

A One-Class NIDS for SDN-Based SCADA Systems
Eduardo Germano da Silva, Anderson Santos da Silva, Juliano Araujo Wickboldt, Paul Smith, Lisandro Zambenedetti Granville, Alberto Schaeffer-Filho

A Comparative Study of the Effects of Pull Request on GitHub Projects
Jing Liu, Jiahao Li, Lulu He

Integrating Version Control in a Standardized Service-oriented Tool Chain
Luka Lednicki, Gaetana Sapienza, Morgan Johansson, Tiberiu Seceleanu, Daniel Hallmans

SEPT: Security, Privacy and Trust in Computing
Session 2: Cloud Security
Location: Piedmont
Session Chair: Katsuyoshi Iida, Tokyo Institute of Technology, Japan

Chronos: Towards Securing System Time in the Cloud for Reliable Forensics Investigation
Shams Zawoad, Ragib Hasan

Customized Cloud Service Trustworthiness Evaluation and Comparison Using Fuzzy Neural Networks
Zhengping Wu, Yu Zhou

Interactive Incontestable Signature for Transactions Confirmation in Bitcoin Blockchain
Yan Zhu, Ruiqi Guo, Guohua Gan, Wei-Tek Tsai

Doctoral Symposium
Session 2
Location: Augusta
Session Chair: Hiroyuki Ohsaki, Kwasei Gakuin University, Japan

Mechanism Design for Replica Placement in Peer-assisted Content Delivery Networks with Heterogeneous Behavior Models
Minzhe Guo, Prabir Bhattacharya

Graph-based Agent Oriented Model for Tunnel Simulation
Sanish Rai, Xiaolin Hu

An Text Information Retrieval Method by Integrating Global and Local Textual Information
Zhibo Wang, Yanqing Zhang

IT Professional - Board Meeting
By Invitation
Location: Macon

Sunday June 12

8:30 - 9:00

Highlights of the day
Sorel Reisman, Standing Committee Chair
Sheikh Iqbal Ahamed, Steering Committee Chair
William Claycomb, Mihhail Matskin, Hiroyuki Sato, Program Chairs in Chief

9:00 - 10:00

Keynote: Kirk Bresniker
Memory Driven Computing - Adapting Algorithms to Thrive on Abundant Memory
Location: Grand Ballroom, Salon B
Session Chair: Dejan Milojicic, HP Labs, USA

10:00 - 10:30**Break****10:30 - 12:00**

SETA: Software Engineering Technology and Applications
Session 3: Mining Software Repositories
Location: Grand Ballroom, Salon A
Session Chair: Xi Cheng, Tsinghua University, China

GRETA: Graph-Based Tag Assignment for GitHub Repositories
Xuyang Cai, Jiangang Zhu, Beijun Shen, Yuting Chen

It Takes Two to Tango: Deleted Stack Overflow Question Prediction with Text and Meta Features
Xin Xia, David Lo, Denzil Correa, Ashish Sureka, Emad Shihab

Towards Correlating Search on Google and Asking on Stack Overflow
Chunyang Chen, Zhenchang Xing

HCSC: Human and Social Computing
Session 1: Social Media
Location: Grand Ballroom, Salon D
Session Chair: Moushumi Sharmin, Western Washington University, USA

Social Media and Health and Wellbeing
Invited Talk: Munmun De Choudhury

Can You Really Make Profit from Online Review Manipulations?: An Empirical Study
Yuhong Liu, Wenqi Zhou

A Next Application Prediction Service Using The BaranC Framework
Mohammad Hashemi, John Herbert

TAIN: Technologies and Applications of the Internet
Session 1: Network Protocols and Applications
Location: Grand Ballroom, Salon E
Session Chair: Katsuyuki Yamazaki, Nagaoka University of Technology, Japan

A Cross-Layer Multicast-Push Unicast-Pull (MPUP) Architecture for Reliable File-Stream Distribution
Shuoshuo Chen, Xiang Ji, Malathi Veeraraghavan, Steve Emmerson, Joseph Slezak, Steve G. Decker

Communication and Security in Health Monitoring Systems - A Review
Hossein Fotouhi, Aida Causevic, Kristina Lundqvist, Mats Bjorkman

An Assessment of Internet of Things Protocols for Resource-Constrained Applications
Dae-Hyeok Mun, Minh Le Dinh, Young-Woo Kwon

ECPE: Embedded and Cyber-physical Environments
Session 3: Specification and Verification
Location: Athens
Session Chair: Cristina Seceleanu, Mälardalen University, Sweden

Verification of Reconfigurable NoC under Quality of Service Constraints
Hela Ben Salah, Adel Benzina, Mohamed Khalgui

Safety Requirements Specification and Verification for Railway Interlocking Systems
Li Han, Jing Liu, Tingliang Zhou, Junfeng Sun, Xiaohong Chen

Designing [Secure] Complex Critical Public Infrastructure
Invited Talk: Aditya Mathur, Singapore University of Technology and Design; Purdue University

ITiP: IT in Practice
Session 2: Internet of Things
Location: Augusta
Session Chair: San Murugesan, Editor in Chief, IT Professional, BRITE Professional Services

How IT Leadership Will Change by 2020 and Why it Matters
Invited Talk: Joseph Williams, State of Washington ICT Industry Sector Policy Lead

Cyber Foraging and Offloading Framework for Internet of Things
Prithviraj Patil, Akram Hakiri, Aniruddha Gokhale:

Designing SSD-friendly Applications for Better Application Performance and Higher IO Efficiency
Zhenyun Zhuang, Sergiy Zhuk, Haricharan Ramachandra, Badri Sridharan:

SEPT: Security, Trust and Privacy in Computing
Session 3: Mobile and Privacy
Location: Piedmont
Session Chair: Hiroki Takakura, National Institute of Informatics, Japan

Maintaining User Interface Integrity on Android
Abeer AlJarrah, Mohamed Shehab

Design of A Concealed File System Adapted for Mobile Devices Based on GPS Information
Yong Jin, Masahiko Tomoishi, Satoshi Matsuura

An Advanced Collusion Attack against User Friendship Privacy in OSNs
Yuhong Liu, Na Li

12:00 - 1:30

Break for lunch

1:30 - 3:00

SETA: Software Engineering Technology and Applications

Session 4: Prediction and Summarization

Location: Grand Ballroom, Salon A

Session Chair: Hend Alrasheed, Kent State University, USA

SatIndicator: Leveraging User Reviews to Evaluate User Satisfaction of SourceForge Projects
Zhenzheng Qian, Beijun Shen, Wenkai Mo, Yuting Chen

On Automatic Summarization of What and Why Information in Source Code Changes
Jinfeng Shen, Xiaobing Sun, Bin Li, Hui Yang, Jiajun Hu

Software Defect Prediction Using Semi-supervised Learning with Change Burst Information
Qing He, Beijun Shen, Yuting Chen

HCSC: Human and Social Computing

Session 2: Data Mining and Community Detection

Location: Grand Ballroom, Salon D

Session Chair: Yuhong Liu, Santa Clara University, USA

HCI Meets Data Mining: Making Sense of Health Problems and Care Processes
Invited Talk: Polo Chau

Community Detection in Large Social Networks Based on Relationship Density
Xiang Li, Yong Tan, Ziyang Zhang, Qiuli Tong

Social Network Community Detection
Invited Talk: Yao Xie

WEDA: Web, Big Data and Analytics

Session 1: Data Analytics

Location: Grand Ballroom, Salon E

Session Chair: Atilla Elci, Aksaray University, Turkey

Keynote: Big Graph Analytics: Models, Platforms and Optimizations
Dr. Ling Liu, Georgia Institute of Technology, USA

Big Holes in Big Data: A Monte Carlo Algorithm for Detecting Large Hyper-rectangles in High Dimensional Data

Joseph Lemley, Filip Jagodzinski, Razvan Andonie

Big Data Initiative Competition Presentations

NATA: Novel Applications and Technology Advances in Computing

Session 1: IoT Application and Middleware

Location: Athens

Session Chair: Toyokazu Akiyama, Kyoto Sangyo University, Japan

Towards Dementia-friendly Smart Homes
Mohsen Amiribesheli, Abdelhamid Bouchachia

Building a Large-Scale Distributed Live Video Analysis System for Movement of Pedestrians in Urban Area

Yuuichi Teranishi, Nozomu Nishinaga

Temporal Dependency Rule Learning Based Group Activity Recognition in Smart Spaces
Amine Lotfi Bourbia, Heesuk Son, Byoungheon Shin, Taehun Kim, Dongman Lee, Soon J. Hyun

Young Professionals Panel

The IoT and the Connected World We Live In

Location: Augusta

Session Chairs: Ramesh Nair and Prasanth Mohan, IEEE Computer Society MGA Board

Panel Moderators: Ramesh Nair and Prasanth Mohan, IEEE Computer Society MGA Board

Panelists: San Murugesan, Editor in Chief of IT Professional, Western Sydney University
XiaodongLiu, Software Research Group, Edinburgh Napier University, UK

Rajesh Subramanyan, Siemens USA

Margaret Loper, CDAIT, Georgia Tech Research Institute, USA

Jeff Evans, CDAIT, Georgia Tech Research Institute, USA

SEPT: Security, Trust and Privacy in Computing

Session 4: Authentication and Access Control

Location: Piedmont

Session Chair: Stelvio Cimato, Dipartimento di Informatica, Università degli studi di Milano, Italy

Authenticating Multiple User-Defined Spatial Queries
Yong Wang, Shimeng Gao, Junhao Zhang, Xiao Nie, Xiaoran Duan, Juguang Chen

Adaptive Reasoning for Context-Sensitive Access Controls
Sara Sartoli, Akbar Siami Namin

User Identification of Pseudonyms without Identity Information Exposure in Access Federation
Hiroyuki Sato, Yasuo Okabe, Motonori Nakamura

3:00 - 3:30

Break

3:30 - 5:00

SETA: Software Engineering Technology and Applications

Session 5: Vulnerability Detection and Test Oracle

Location: Grand Ballroom, Salon A

Session Chair: Dave Towey, The University of Nottingham at Ningbo, China

An Effective Penetration Test Approach based on Feature Matrix for Exposing SQL Injection Vulnerability

Lei Liu, Jing Xu, Hongji Yang, Chenkai Guo, Jiehui Kang, Sihan Xu, Biao Zhang, Guannan Si

Code Coverage-based Failure Proximity Without Test Oracles
Jingxuan Tu, Xiaoyuan Xie, Baowen Xu

Toward Exploiting Access Control Vulnerabilities within MongoDB Backend Web Applications

Shuo Wen, Yuan Xue, Jing Xu, Hongji Yang, Xiaohong Li, Wenli Song, Guannan Si

HCSC: Human and Social Computing

Session 3: Discussion

Location: Grand Ballroom, Salon D

Session Chairs: Moushumi Sharmin, Western Washington University, USA and Yuhong Liu, Santa Clara University, USA

WEDA: Web, Big Data and Analytics

Session 2: Semantics Discovery and Management

Location: Grand Ballroom, Salon E

Session Chair: Duygu Celik, Istanbul Aydin University, Turkey

Risk Assessment for a Global Air Transport System Using Socioeconomic-Technological-Environmental Databases

Aki-Hiro Sato, Hidefumi Sawai

Constructing Semantic Links between Tags and URLs on StackOverflow

Wenkai Mo, Jianguang Zhu, Zhenzheng Qian, Beijun Shen: SOLinker

Centrality and Cluster Analysis of Yelp Mutual Customer Business Graph

Brian McClanhan, Swapna S. Gokhale

Big Data Initiative Competition Presentations

NATA: Novel Applications and Technology Advances in Computing

Session 2: Cloud Computing

Location: Athens

Session Chair: Yuuichi Teranishi, Osaka University, Japan

General Framework for Task Scheduling and Resource Provisioning in Cloud Computing Systems

Xiaomin Zhu, Yabing Zha, Ling Liu, Peng Jiao

GPU-Aware Genetic Estimation of Hidden Markov Models for Workload Classification Problems

Alfredo Cuzzocrea, Enzo Mumolo, Nicola Timeus, Gianni Vercelli

ITiP: IT in Practice

Session 3: IT Service Applications

Location: Augusta

Session Chair: M. R. Lee, Shih Chien University, Taiwan

Probabilistic Sequence Modeling for Trustworthy IT Servicing by Collective Expert Networks

Kayhan Moharreri, Jayashree Ramanathan, Rajiv Ramnath

The Story of Naive Alice: Behavioral Analysis of Susceptible Internet Users

Rasib Khan, Ragib Hasan

Mitigating an Oxymoron: Compliance in a DevOps Environments

John R. Michener, Aaron T. Clager

CELT: Computer Education and Learning Technologies

Session 1: CS as a Lifelong Discovery

Location: Piedmont

Session Chair: Henry Chan, The Hong Kong Polytechnic University, Hong Kong

An Approach to Using Existing Online Education Tools to Support Practical Education on MOOCs.

Yanchun Sun, Zijian Qiao, Dejian Chen, Chao Xin, Wepin Jiao

Academic Performance Prediction Using Chance Discovery from Online Discussion Forums

Gary K. W. Wong, Simon Y. K. Li

Stage-Based Generative Learning Object Model to Support Automatic Content Generation and Adaptation

Vytautas Stukys, Renata Burbaite, Kristina Bepalolova, Vida Drasute, Giedrius Ziberkas, Algimantas Venckauskas

Learning the Social Web: a Multidisciplinary Approach

Luigi De Russis, Laura Farinetti, Gabriella Taddeo

6:00 - 8:30

COMPSAC Banquet: Atlanta Aquarium

Sponsored by IEEE Future Directions and Big Data Initiative

Monday June 13

8:30 - 9:00 **Highlights of the day and promotion of COMPSAC 2017**
Sorel Reisman, Standing Committee Chair
Sheikh Iqbal Ahamed, Steering Committee Chair
William Claycomb, Mihhail Matskin, Hiroyuki Sato, Program Chairs in Chief

9:00 - 10:00 **Keynote: Bob Metcalfe**
Ethervation: Lessons from 43 Years of Ethernet Innovation
Location: Grand Ballroom, Salon B
Session Chair: William Chu, Tunghai University, Taiwan

10:00 - 10:30 **Break**

10:30 - 12:00 **SETA: Software Engineering Technology and Applications**
Session 6: Testing and Fault Prediction
Location: Grand Ballroom, Salon A
Session Chair: Junhua Ding, East Carolina University, USA

Investigating the Effects of Balanced Training and Testing Datasets on Effort-Aware Fault Prediction Models
Kwabena Ebo Bennin, Jacky Keung, Akito Monden, Yasutaka Kamei, Naoyasu Ubayashi

Improving Failure Detection by Automatically Generating Test Cases Near the Boundaries
Min Zhou, Xi Cheng, Xinrui Guo, Ming Gu, Hongyu Zhang, Xiaoyu Song

Prioritizing Interaction Test Suites using Repeated Base Choice Coverage
Rubing Huang, Weiwen Zong, Jinfu Chen, Dave Towey, Yunan Zhou, Deng Chen

SETA: Software Engineering Technology and Applications
Session 10: Exploratory Study
Location: Grand Ballroom, Salon C
Session Chair: Nimanthi Atukorala, Iowa State University, USA

Human Subject Evaluation of Computer-Security Training Recommender
Muhammad Nadeem, Byron J. Williams, Gary L. Bradshaw, Edward B. Allen

A Preliminary Study Examining Relationships between Nano-Patterns and Software Security Vulnerabilities
Kazi Zakia Sultana, Ajay Deo, Byron J. Williams

WEDA: Web, Big Data and Analytics
Session 3: Big Data Applications
Location: Augusta
Session Chair: Rajesh Subramanyan, Siemens, USA

Causal Consistency for Distributed Data Stores and Applications as They Are
Kazuyuki Shudo, Takashi Yaguchi

SpatailGraphx: A Distributed Graph Computing Framework for Spatial and Temporal Data at Scale

Changyuan Wang, Zongfei Lu, Yang Liu, Shanqing Guo, Xinshun Xu, Shijun Liu, Lizhen Cui

Text Mining Analysis in Turkish Language Using Big Data Tools

Mehmet Ulas Cakir, Seren Guldamlasioglu

Using Object-Oriented Big Data Analytics to Reveal Server Performance Dead Zone

Huihong He, Haibing Zhai, Qian Liu, Yong Wang

NATA: Novel Applications and Technology Advances in Computing

Session 3: Software Security

Location: Athens

Session Chair: Frederick Sheldon and Clint Jeffery, University of Idaho, USA

Evaluating Security and Privacy in Cloud Services

Invited Talk: Abdullah Abuhussein, Faisal Alsubaei, Sajjan Shiva

Towards Realizing a Self-Protecting Healthcare Information System

Invited Talk: Qian Chen, Jonathan Lambright

Requirements are the New Code

Invited Talk: Daniel Conte de Leon, Sanjeev Shrestha

MOWU: Mobile, Wearable and Ubiquitous Computing

Session 1: Smartphone-based Localization

Location: Savannah #1

Session Chair: Alfredo Cuzzocrea, University of Trieste, Italy

Self-adaptive Step Counting on Smartphones under Unrestricted Stepping Modes

Zihao Tang, Yao Guo, Xiangqun Chen

Your Walk is My Command: Gait Detection on Unconstrained Smartphone Using IoT System

AKM Jahangir Majumder, Piyush Saxena, Sheikh Ahamed

CELT: Computer Education and Learning Technologies

Session 2: CS and Learning Environments

Location: Piedmont

Session Chair: Tiziana Margaria, University of Limerick, Ireland

Implementing an Open-access, Data-Science Programming Environment for Learners

Austin Cory Bart, Javier Tibau, Eli Tilevich, Clifford A. Shaffer, Dennis Kafura

Supporting Learners in Online Courses Through Pair Programming and Live Coding

Soroush Ghorashi, Carlos Jensen

The Cost of Syntax and How To Avoid It - Text versus Frame-Based Editing

Amjad Altadmri, Michael Kölling, Neil C.C. Brown

12:00 - 1:30

Break for lunch

1:30 – 3:00

SETA: Software Engineering Technology and Applications

Session 7: Debugging

Location: Grand Ballroom, Salon A

Session Chair: W.K. Chan, City University of Hong Kong, Hong Kong

A Strategy to Determine When to Stop Using Automatic Bug Localization
Zhendong Shi, Jacky Keung, Kwabena Ebo Bennin, Nachai Limsettho, Qinbao Song

Exploring the Instability of Spectra Based Fault Localization Performance
Yuanchi Guo, Xiaoyi Zhang, Zhengzheng

Automated Program Repair by Using Similar Code Containing Fix Ingredients
Tao Ji, Liqian Chen, Xiaoguang Mao, Xin Yi

SETA: Software Engineering Technology and Applications

Session 11: Test Generation and Allocation

Location: Grand Ballroom, Salon C

Session Chair: Kwabena Ebo Bennin, City University of Hong Kong, Hong Kong

An Approach for Iteratively Generating Adequate Tests in Metamorphic Testing: A Case Study
Junhua Ding, Dongmei Zhang

Apsaras: Efficient Allocation of Physical Devices for Android Testing
Tianchi Liu, Chun Cao, Jie Chen, Ziling Lu, Xiaoxing Ma

Improving Defect Detection Ability of Derived Test Cases Based on Mutated UML Activity Diagrams
Haiying Sun, Mingsong Chen, Min Zhang, Jing Liu, Ying Zhang

WEDA: Web, Big Data and Analytics

Session 4: Semantics Discovery and Management

Location: Augusta

Session Chair: Kathy Grise, IEEE

TripleFCA: FCA-based Approach to Enhance Semantic Web Data Management
Saleh Albahli, Austin Melton

Entity Type Recognition using an Ensemble of Distributional Semantic Models to Enhance Query Understanding
Walid Shalaby, Khalifeh Al Jadda, Mohammed Korayem, Trey Grainger

WEDA/Big Data Competition Awards Presentation

Panel: *Big Data and Analytics: What is Ahead?*
Panelists: Kathy Grise, IEEE; Atilla Elci, Aksaray University, Turkey; Mahmoud Daneshmand, Stevens Institute of Technology; May Wang, Georgia Institute of Technology, USA

3:00 – 3:30

3:30 – 5:00

NATA: Novel Applications and Technology Advances in Computing

Session 4: Panel Discussion

Location: Athens

Session Chair: Sahra Sedigh, Missouri University of Science & Technology, USA

Panel Coordinator: Ali Hurson, Missouri University of Science & Technology
Panelists: Mohsen Amirbesheli, Bournemouth University, UK; Yuuichi Teranishi, NICT, Japan; Alfredo Cuzzocrea, University of Trieste, Italy

MOWU: Mobile, Wearable and Ubiquitous Computing

Session 2: Mobile Data and Cloud

Location: Savannah #1

Session Chair: Hong-Ya Leong, Hong Kong Polytechnic University, Hong Kong

Fusing Static and Roving Sensor Data for Detecting Highway Traffic Conditions in Real Time
Beihong Jin, Yanling Cui, Fusang Zhang

DPMS: A Swift Data Dissemination Protocol based on Map Splitting
Sabri Allani, Taoufik Yeferny, Richard Chbeir, Sadok Ben Yahia

A Cloud You can Wear: Towards a Mobile and Wearable Personal Cloud
Ragib Hasan, Rasib Khan

CELT: Computer Education and Learning Technologies

Session 3: Learning Outcomes and Assessment

Location: Piedmont

Session Chair: Claudio Demartini, Politecnico di Torino, Italy

A Cloud-based Immersive Learning Environment for Distributed Systems Algorithms
Yogesh Barve, Prithviraj Patil, Aniruddha Gokhale

Reasoning for CPS Education Using Surrogate Simulation Models
Shunxing Bao, Joe Porter, Aniruddha Gokhale

Which Learning Outcomes Should I Acquire? A Bar Chart-based Semantic System for Visually Comparing Learners' Acquirements with Labor Market Requirements
Valentina Gatteschi, Fabrizio Lamberti, Gianluca Paravati, Alessandro Raso, Claudio Demartini

Toward More Robust Automatic Analysis of Student Program Outputs for Assessment and Learning
Chung Keung Poon, Tak-Lam Wong, Y. T. Yu, Victor C. S. Lee, Chung Man Tang

Break

Plenary Panel: Humans and Computing: Beyond the Human-Machine Interface

Location: Grand Ballroom, Salon B

Co-Chairs: Carl K. Chang, Iowa State University, USA and Doris Carver, Louisiana State University, USA

Panelists: Sumi Helal, University of Florida, USA
Brygg Ullmer, Louisiana State University, USA

Tuesday June 14

8:30 - 10:00

STPSA: The 11th IEEE International Workshop on Security, Trust, and Privacy for Software Applications

Session 1: Web Security

Location: Grand Ballroom, Salon A

Session Chair: Hasan Shahriar, Kennesaw State University, USA

Welcome Notes

An Architecture for a Policy-Oriented Web Browser Configuration Management System - HiFiPol: Browser

Ananth Abhishek Jillepalli, Daniel Conte de Leon

A Web Application For Studying Collusion Attacks Through Friend Search Engine

Sai Samrat Malka, Na Li, Venu Madhavi Doddapaneni, Yuhong Liu, Anil Kumar Pamulapati

Information Theoretic Anomaly Detection Framework for Web Application

Robert Bronte, Hossain Shahriar, Hisham Haddad

DSA: The 2nd IEEE International Workshop on Dependable Software and Applications

Session 1

Location: Grand Ballroom, Salon B

Session Chair: Baowen Xu, Nanjing University, China

Formal Sequence: Extending UML Sequence Diagram for Behavior Description and Formal Verification

Deshuai Han, Jianchun Xing, Qiliang Yang, Hongda Wang, Xuwei Zhang

Empirical Assessment of Corrupt Sensor Data Detection Methods in a Robot

Giedre Sabaliauskaite, Geok See Ng, Justin Ruths, Aditya Mathur

A Case Study: Verification of an Embedded System using Abstraction Refinement with Requirements

Toshifusa Sekizawa, Makoto Fujiwara, Koichiro Watanabe

UCDAS: The 3rd IEEE International Workshop on User Centered Design and Adaptive Systems

Session 1

Location: Grand Ballroom, Salon C

Session Chair: Hua Ming, Oakland University, USA

"Please, no more GUIs!": A User Study, Prototype Development and Evaluation on the Integration of Attribute-based Encryption in a Hospital Environment

Dirk Thatmann, Philip Raschke, Axel Kupper

Your Eye Tells How Well You Comprehend

Jiajia Li, Grace Ngai, Hong Va Leong, Stephen Chan

Emotion Recognition: Effort Towards User Centered Learning Model

Oryina Akputu, Adedolapo Abiodun

NETSAP: The 6th IEEE International Workshop on Network Technologies for Security, Administration and Protection

held jointly with

SIMICE: The 2nd IEEE International Workshop on Secure Identity Management in the Cloud Environment

Session 1

Location: Grand Ballroom, Salon D

Session Chair: Yutaka Miyake, KDDI R&D Laboratories, Inc., Japan

The Impact of Address Changes and Host Diversity on the Effectiveness of Moving Target Defense Strategy

Jianjun Zheng, Akbar Siami Namin

An Automated ACL Generation System for Secure Internal Network

Hirokazu Hasegawa, Yukiko Yamaguchi, Hajime Shimada, Hiroki Takakura

Collaborative Spoofing Detection and Mitigation - SDN based looping authentication for DNS services

Nor Masri Sahri, Koji Okamura

Fast Abstract 1: Software And Application Testing and Benchmarking

Location: Grand Ballroom, Salon E

Session Chair: Abderrahmane Leshob, University of Quebec at Montreal, Canada

Benchmarking Large-scale Object Storage Servers

Jaemyoun Lee, Chang Song, Kyungtae Kang

Estimating t-way Fault Profile Evolution During Testing

Rick Kuhn, Raghu Kacker, Yu Lei

Experience Report: How Do Metamorphic Relations Perform in Geographic Information Systems Testing

Zhan-wei Hui, Song Song

Dynamic Testing Against Hidden Concurrency Bugs through Abstraction

Jialin Yang, W.K. Chan

An Augmented Cybersecurity Behavioral Research Model

Joyce Addae, Xu Sun, Dave Towey, Milena Radenkovic

10:00 - 10:30

Break

10:30 – 12:00

Panel: Big Data in Bio and Health Informatics

Location: Grand Ballroom, Salon C

Session Chair/Moderator: S. Iqbal Ahamed, Marquette University, USA

Panelists: Alexander Zelikovsky, Distinguished Professor of Computer Science, Georgia State University, USA

Mark Borodovsky, Regents Professor of Biology, Georgia Institute of Technology, USA

Srinivas Aluru, Professor of Computer Science, Georgia Institute of Technology, USA

Yuri Khudyakov, Center for Disease Control, USA

May Wang, Georgia Institute of Technology, USA

STPSA: The 11th IEEE International Workshop on Security, Trust, and Privacy for Software Applications

Session 2: Data Privacy

Location: Grand Ballroom, Salon A

Session Chair: Abderrahmane Leshob, University of Quebec at Montreal, Canada

Privacy Preservation in Affect-Driven Personalization

Ivor D. Addo, Praveen Madiraju, Sheikh I. Ahamed, William C. Chu

New Challenge of Protecting Privacy due to Stained Recognition

Lining Xu, Yongxu Wu

Customizing IETF RFC 6280 Geopriv for Compliance of Wi-Fi Positioning System APIs with Privacy Laws

Saikrishna Yellanki, Dale Lindskog, Pavol Zavarsky, Ron Ruhl

An Efficient Safe Directory Based File Protection Mechanism

Manting Shen, Yinyan Yu, Zhi Tang, Xiaoyu Cui

12:00 – 1:30

Break for lunch

1:30 – 3:00

STPSA: The 11th IEEE International Workshop on Security, Trust, and Privacy for Software Applications

Session 3: Emerging Security Topics

Location: Grand Ballroom, Salon A

Session Chair: Victor Clincy, Kennesaw State University, USA

A Novel Secure and Efficient Policy Management Framework for Software Defined Network

Bata Krishna Tripathy, Ananta Gopal Sethy, Padmalochan Bera, Mohammad Ashiqur Rahman

VFence: A Defense against Distributed Denial of Service attacks

using Network Function Virtualization

A H M Jakaria, Wei Yang, Bahman Rashidi, Carol Fung, M. Ashiqur Rahman

Trust-based Development Framework for Distributed Systems and IoT

Mohsen Dorodchi, Maryam Abedi, Bojan Cukic

Enhanced User Security and Privacy Protection in 4G LTE Network

Okoye Emmanuel Ekene, Ron Ruhl, Pavol Zavarsky

UCDAS: The 3rd IEEE International Workshop on User Centered Design and Adaptive Systems

Session 2

Location: Grand Ballroom, Salon C

Session Chair: Cristina Seceleanu, Mälardalen University, Sweden

Does User's Prior Knowledge Worth Consideration? The Influence of Prior Knowledge Toward Mutual Gaze Convergence

Chidchanok Thepsoonthorn, Takahiro Yokozuka, Jinhwan Kwon, Robin Mia Sin Yap, Shunsuke Miura, Ken-ichiro Ogawa, Yoshihiro Miyake

Braille Text Entry on Smartphones: A Systematic Review of the Literature

Joyce Siqueira, Fabrizio Soares, Deller Ferreira, Mateus Luna, Cleyton Silva, Cristiane Ferreira, Igor Felix, Luciana Berretta

An Interaction Framework for Supporting the Adoption of EHRs by Physicians

Victor H. Castillo, Ana I. Martinez-Garcia, Leonel Soriano-Equigua, Jose Luis Alvarez-Flores

Recognizing Voice-Based Requirement to Drive Self-Adaptive Software Systems

Xiaobing Zhang, Qiliang Yang, Jianchun Xing

NETSAP: The 6th IEEE International Workshop on Network Technologies for Security, Administration and Protection

held jointly with

SIMICE: The 2nd IEEE International Workshop on Secure Identity Management in the Cloud Environment

Session 2

Location: Grand Ballroom, Salon D

Session Chair: Julien Bringer, Morpho, France

Flying Communication Server in case of a Large-scale Disaster

Toru Kobayashi, Hiroaki Matsuoka, Shouta Betsumiya

Malware Detection with Deep Neural Network Using Process Behavior

Shun Tobiyama, Yukiko Yamaguchi, Hajime Shimada, Tomonori Ikuse, Takeshi Yagi

Privacy-Preserving Outsourcing of Data Mining

Anna Monreale, Wendy Hui Wang

Statistical Tradeoffs between Generalization and Suppression in the De-Identification of Large-Scale Data Sets

Olivia Angiuli, Jim Waldo

MEDICOMP: The 3rd IEEE International Workshop on Medical Computing

Session 1: Dataset Specific Medical Computing

Location: Grand Ballroom, Salon B

Session Chair: Zheng Fang, Institute of Electrics, Chinese Academy of Science, China

Risk Factors Selection for SGA Prediction

Mo Haowen, Liu Lu, Li Jianqiang, Yang Ji-Jiang, Meng Xi, Chen Shi, Wang Qing, Pan Hui

MRI Interpolation for Multiple Sclerosis Lesion Quantification
Fabiano Farias, Pedro Klein, Ricardo Soder, Becker Jefferson, Marcio Sarroglia Pinho

A Heart Rate Variability Analysis System Based on LeanCloud and Echarts
Yang Zheng, Xianxiang Chen, Zhen Fang, Shanhong Xia

Semi Supervised learning based on Cataract Classification and Grading
Wenai Song, Ping Wang, Xudong Zhang, Qing Wang

Fast Abstract 2: Computer Algorithms, Applications and Education
Location: Grand Ballroom, Salon E
Session Chair: Katsuyoshi Iida, Tokyo Institute of Technology, Japan

Hardware Acceleration of Smith-Waterman Algorithm for Short Read DNA Alignment Using FPGA
Wael Abou El-Wafa, Asmaa Seliem, Hesham Hamed

Hands-on Labs for Learning Mobile and NoSQL Database Security
Minzhe Guo, Kai Qian, Li Yang

BrailleÉcran: A Braille Approach to Text Entry on Smartphones
Joyce Siqueira, Fabrizzio Soares, Mateus Luna, Cleyton Silva, Cristiane Ferreira, Luciane Beretta, Igore Félix

Using Real-time Fear Appeals to Improve Social Media Security
Lei Li, Kai Qian

Services Extraction from Business Process Model: An Ontology-based Approach
Abderrahmane Leshob

3:00 - 3:30

Break

3:30 - 5:00

STPSA: The 11th IEEE International Workshop on Security, Trust, and Privacy for Software Applications
Session 4: Miscellaneous Topics
Location: Grand Ballroom, Salon A
Session Chair: Mohammad Ashiqur Rahman, Tennessee Tech University, USA

Efficient Design of Firewall Temporal Policies
Mahesh Nath Maddumala, Vijay Kumar

OCL Fault Injection-Based Detection of LDAP Query Injection Vulnerabilities
Hossain Shahriar, Hisham M. Haddad, Pranahita Bulusu

Security Controls for Monitored Use of USB Devices Based on the NIST Risk Management Framework
Rajbhooshan Bhakte, Pavol Zavorsky, Sergey Butakov

Estimating Mean Time to Compromise Using Non-homogenous Continuous-time Markov Models
Subil Mathew Abraham

UCDAS: The 3rd IEEE International Workshop on User Centered Design and Adaptive Systems
Session 3
Location: Grand Ballroom, Salon C
Session Chair: Sheikh Iqbal Ahamed, Marquette University, USA

Handling Uncertainty in Self-adaptive Software Using Self-learning Fuzzy Neural Network
Deshuai Han, Jianchun Xing, Qiliang Yang, Juelong Li, Hongda Wang

A Service-oriented User Interaction Analysis Framework Supporting Adaptive Applications
Mohammad Hashemi, John Herbert

MEDICOMP: The 3rd IEEE International Workshop on Medical Computing
Session 2: General Medical Computing
Location: Grand Ballroom, Salon B
Session Chair: Ji-Jiang Yang, Tsinghua University, China

Scalable Cloud-based Analysis Framework for Medical Big-data
Rezvan Pakdel, John Herbert

Pattern Recognition for Large-scale and Incremental Time Series in Healthcare
Bo Liu, Jianqiang Li, Ji-Jiang Yang, Jing Bi, Rong Li, Yong Li

A Software Tool for Floating Point Interval Analysis with Improved Precision for Javascript-based Medical Applications
Khalid Alghamdi, Nabil Almashfi, Hua Ming

Project and Preliminary Evaluation of VR-MED, a Domain-Specific Language for serious games in Family Medicine Teaching
Joao Mossmann, Rafael Rieder, Cecilia Flores, Marcio Pinho

Fast Abstract 3: Big Data and Infrastructure
Location: Grand Ballroom, Salon E
Session Chair: Hossain Shahriar, Kennesaw State University, USA

An Integrated Approach to Deriving Safety and Security Requirements from Safety Case
Elena Troubitsyna

Exploring Trusted Data Dissemination in a Vehicular Social Network with a Formal Compositional Approach
Xiao Chen, Liangmin Wang

The Impact of Data Preprocessing on the Performance of Naïve Bayes Classifier
Priyanga Chandrasekar, Kai Qian

S-Flink: Schedule for QoS in Flink using SDN
Srinivasan Dwarakanathan

Digital Badges to Enhance Skills and Preparation for a Career in Cyber Security
Hossain Shahriar, Svetlana Peltsverger, Humayun Zafar, Bill Bailey, Linda Johnston

Anomalous Android Application Detection with Latent Semantic Indexing
Hossain Shahriar, Victor Clincy

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15 November 2016

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13 January 2017

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