PHITOPOLIS

Internship Program

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Internship Plan
Updated 31 March 2023

1. About the Company

Phitopolis International Corp. is a research and development firm supporting Quantitative Research and Trading for Global Hedge Fund clients. Our experienced executives have built a first-class technical team in the Philippines adhering to international standards of excellence. Together, with backing from investors in the USA, Europe and Hong Kong, we are committed to growing Phitopolis into a top-tier R&D firm.

To attract and retain the best people, we offer a competitive benefits package, best in class training, a flat organization structure, and opportunities for rapid career growth along with team bonding events, career counseling and an open communication environment where all are encouraged to contribute to our shared success.

Location
Phitopolis is located at 29/F, World Plaza, 5th Avenue corner 30th Street, Bonifacio Global City, Taguig City, Philippines. The office is strategically located within walking distance to some of the major points of interest in the city:

- St. Luke's Medical Center (a leading and respected private healthcare institution);
- Food destinations from food halls, restaurants, fine dining establishments and bars
- Shopping destinations such as S&R Membership Shopping, Bonifacio High Street, SM Aura, The Market- Market, Uptown Mall, Serendra
- Top Hotels such as Shangri-La The Fort, The Grand Hyatt, Seda Hotel and F1 Hotel
- The Mind Museum

Transportation
The office can be accessed through different modes of public transportation such as The Fort Bus, taxis and private hire vehicle hauling services. For those who chose to drive, a number of public parking spaces are located around the building.

Business Hours and Dress Code
Our office hours are 7:00 AM to 4:00 PM Mondays through Fridays. We follow the Philippine holidays. Phitopolis follows a relaxed casual dress code and employees are entrusted to wear clothing that is comfortable, practical and decent.

2. About Us

Meet the team:

Data Science team is a group of individuals who come from a wide variety of academic backgrounds including Business, Physics, Mathematics, Computer Science and Engineering. We cover the entire Data Science process from preparing data, doing research, building models up to deploying data and models into production for use in trading using programming languages such as Python.
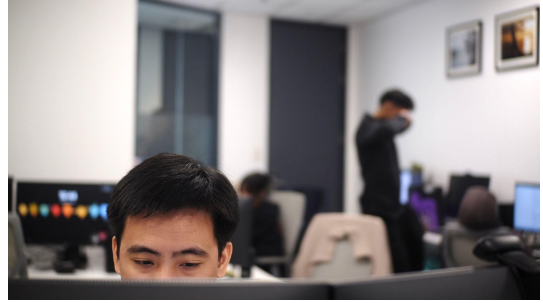

DevOps is a team of multi-skilled engineers involved in the continuous delivery, deployment and monitoring of applications to enable the whole organization to adapt, grow and thrive in an ever changing business and IT landscape. We collaborate across multiple teams as we find solutions and optimize processes.

Software Engineering is a team with varied expertise ranging from high performance and distributed systems with typical characteristics as low latency and high throughput; web and programmable application interfaces empowering end users to achieve their business goals; platform development focused on seamless provisioning of on-demand compute resources; and enabling massive data Analytics.

We use a variety of technologies and programming languages including C++ and high quality, peer-reviewed C++ libraries to develop systems connecting to global financial markets, target massive storage capabilities of cloud computing platforms, and provide high level interfaces to low level facilities such as virtual filesystems.

Web applications are built using MERN stack, Python, SQL and NoSQL databases. So far, we delivered online datasets management, cloud computing provisioning, cyber security and real-time alerting.

HR & Administration is a team of talented multi-taskers who enjoy solving problems and building strong happy teams. We provide back office support to ensure employees are supported and taken care of while everyday business needs are fulfilled.

3. About the Program

Our Internship program aims to help the students embed themselves on real world tasks. This is achieved by allowing the students to immerse themselves in existing teams as they discover the exciting technology, projects and people at Phitopolis.

Internship hours may be used for College credit. Evaluation of interns will be done after each program and successful interns will have priority for job placement at Phitopolis after graduation.

Requirements
  a) Minimum of 6 weeks assignment and no less than 24 hours per week / 4 hours per day
  b) Maximum of 2 interns per team
  c) In-office attendance at our BGC office
  d) Minimum per diem may be provided to help with transportation and other costs

INTERNSHIP - Research and Data Science

A. Knowledge and skills that the students will get out of their Research internship at Phitopolis

Students will gain hands-on experience in doing quantitative trading research projects – from data processing to model building and model evaluation.

Students will be given their own projects, similar to what the company's researchers handle, allowing the students to learn or enhance their Python, mathematical modeling and some Machine Learning knowledge.

B. Deliverables and/or project goals expected from the students including project presentation at the end of the internship, if applicable.

Students will be given a paper on which they will base their research on. They are expected to translate the ideas of the paper into Python code i.e. generate the data from the paper, implement the models in the paper and come up with ideas beyond the paper that would help enhance the results. Assessment of the students will not be based on the results of the paper but on the conduct of their research.

They will be given access to our system and data on a per-need basis. Requests for data access will be subject to the approval of Phitopolis.

At the end of the internship period, the students will be required to turnover their codes and present their work to the Phitopolis and Quantbot Team.

C. Supervision/coaching plans during the internship

A person or two from the Team, depending on the number of students, will be assigned to directly handle the students in doing their project but everyone in the team is available for consultation.

A dedicated Slack channel will be created for the students. All members of the Team will be members of this channel including some Dev Ops and Quantbot team members for any inquiries about the project and system access requests and issues.

D. Progress monitoring and feedback process

Students will be included in the Team's standup meetings wherein the students will discuss their progress and what they plan to do until the following meeting. Here, the students will be able to discuss their work, ask questions and seek advice on how to move forward with their project.

Students will not be limited to the schedule above. The team is available for calls/consultation anytime for the students.

INTERNSHIP - Software EngineeringTeam

A. Knowledge and skills that the students will get out of their Software Engineering internship at Phitopolis

The students will gain first hand experience in software development in a real-world setting. This starts from identifying features or issues, prioritizing them, breaking them up into simpler chunks which should be easier to address, followed by code development and peer review. They will also gain an appreciation of how production issues are addressed.

Students will be able to apply their knowledge of data structures and algorithms in understanding the code that they are going to build on with a focus on correctness, stability and performance.

Students will be able to apply their knowledge in distributed application development particularly the client-server model. They will also be able to practice a structured software development methodology in Scrum.

B. Deliverables and/or project goals expected from the students including project presentation at the end of the internship, if applicable.

Students will be exposed to the agile methodology - one of the 2 most common software development methodology used in the IT industry. They will learn about the process of breaking down complex problems into smaller and manageable chunks.

Students will be able to write production code assisted by a developer and later on, write production code by themselves where the output will be reviewed by a peer developer.

Students will have a chance to review code written by a peer developer. They will also have first hand experience of releasing software into production environment.

Students will witness the process of diagnosing a production issue or analyze the root cause of a problem by looking at software artifacts such as logs and core dumps.

C. Supervision/coaching plans during the internship

A person or two from the Software Engineering team, depending on the number of students, will be assigned to directly handle the students in doing their project but everyone in the team is available for consultation.

D. Progress monitoring and feedback process

The students will participate and share in the regular standup meetings and inform the team about their progress by answering the following questions:

 - What did I work on yesterday?
 - What am I working on today?
 - What issues are blocking me?

INTERNSHIP - DevOps

A. Knowledge and skills that the students will get out of their DevOps internship at Phitopolis

- Build knowledge in handling Production Environment
- Unix/Linux-based operating system administration
- Networking and System interconnectivity
- Cloud-based architecture
- Systems Deployment and configuration
- Shell Scripting and other automation tools
- Python Programming
- Collaboration and code repository
- Build an understanding of financial trading operations
- Stakeholder management
- Technical Writing and Documentation

B. Deliverables and/or project goals expected from the students including project presentation at the end of the internship, if applicable.

Week	Task	Requirements	Goals	Course Percentage Completion
1	Setup Linux Virtual Environment Tooling and navigation User Management and Security	VirtualBox Centos 7 Built-in utils	Learn how to setup a Linux system Learn the tools to navigate and identify the components of the system	15%
2	Administration Configure Networking Software Installation and administration	Virtual Box Centos 7 Built-in utils Httpd	Set up the systems as to create an environment that is interconnected Create a simple webservice	30%
3	Automation	Virtual Box Centos 7 Built-in utils Httpd Bash scripting Ansible Python	Automate the tasks that were done on weeks 1 and 2	60%

| 4 | Cloud Computing | AWS - Free Tier Ec2 Docker | Build the exercises on weeks 1 and 2 using cloud computing technologies | 80% |
| 6 | Collaboration and Code Repository

Automated Deployment | AWS - Free Tier Ec2 Docker Gitlab free Ansible Terraform | Supplement exercise 4 with a code repository and automated deployment | 100% |

C. Supervision/coaching plans during the internship

Interns will rotate through different DevOps members and will be taught based on the members domain expertise, such as Data Operations, Platform support, Trading Support and Cloud Architecture. The main goal is for them to build both technical and domain knowledge.

D. Progress monitoring and feedback process

The interns will participate and share in the regular standup meetings and inform the team about their progress by answering the following questions:

 - What did I work on yesterday?
 - What am I working on today?
 - What issues are blocking me?

4. Points of Contact

Mark Walbaum, *Chief Technology Officer*
Maricar Reyes, *Head of HR & Admin*

Email: **info@phitopolis.com**

5. Updates and Annual Review

Phitopolis International Corp. will update this plan whenever there is material change to our operations, structure, business, or location.

In addition, Phitopolis will review this Internship plan annually, on November 1, to modify it for any changes in our operations, structure, business, or location.