Holiday Internship Opportunities for students from the department

(21 December 2016)

2017 Corporate Technology Summer Analyst Program (Singapore)

J.P. Morgan

Spend your summer engineering large-scale, complex and resilient technology solutions that drive our global business. You’ll help build and optimize applications and systems that support millions of customers, clients and employees worldwide. Supported by a $9 billion spend, you’ll cultivate your technology expertise in an industry-leading environment.

What You Can Expect

This 10-week summer program will give you insights into how technology drives the firm’s overall efficiency, improves our risk management and enhances our customer and client experiences. This program will offer you hands-on experience, one-on-one mentoring, access to senior business leaders and the opportunity to meet colleagues and peers as you build your network.

You’ll start the program with an in-depth orientation to our innovation strategies, products and systems, and technology community. After that, you’ll join a Software Engineering or Infrastructure Engineering role within our consumer, wholesale or corporate businesses.

Software Engineers will work through the complete life cycle of innovation, from analysis to development, testing and implementation. You will learn about our business challenges and help create the smartest technology solutions to address our clients’ and customers’ needs. You’ll be part of the planning, architecture, development and implementation of applications – writing, modifying and testing software. You’ll work alongside some of the brightest minds in the industry, creating best-in-class user experiences, products and applications.

Infrastructure Engineers will help develop and build out high-performance systems that manage complex business initiatives in tandem with our top technologists. You’ll engage in the design and development of innovative storage, networking and computer solutions on platforms with unmatched scale that support our critical business needs such as trading or credit card processing. You will work on internal solutions to build software that automates the operations of the firm’s infrastructure.

Work in a variety of roles on various ground-breaking projects as we invest further into FinTech and our partnerships with Silicon Valley tech firms — concentrating on big data and analytics, digital banking, cybersecurity, cloud development, data visualization, and electronic payments.

This program is designed to open the door to an accelerated career in technology. Upon successful completion of the program, you may receive an offer of full-time employment.

Program Start Date

May 2017 (10 weeks)

About You

We’re looking for highly motivated, purpose-driven individuals with a passion for developing technologies with global impact.
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Key Qualifications:
- Degree qualified with solid academic background, with an expected graduation in December 2017 or June 2018
- GPA 3.2/4.0 equivalent or above
- Computer Science, Computer Engineering, Electrical Engineering and/or MIS majors are preferred — other majors may be considered
- Knowledge of IT programming languages (Java, Python, Go and others), networks and databases
- Infrastructure Engineering candidates should have an understanding of operating systems, performance and monitoring, and a working knowledge of computing, virtualization, cloud infrastructures, networking, storage, information security, database, and/or server administration
- Strong interpersonal and communication skills
- Ability to thrive in a fast-paced, collaborative environment
- Leadership in school or community organization

Complete the online application form and attach your resume, cover letter and academic transcript (online version of academic transcript will be sufficient).

Closing date for applications is February 5, 2017 (Singapore time).

We encourage early applications as screening will be conducted on a rolling basis. Kindly note that you are allowed to submit a maximum of 3 applications to any program within a calendar year, so do choose carefully before submitting your application. For further enquiries, please email us at jpmorgan_asia_recruiting@jpmorgan.com.
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(25 November 2016)

Quantitative Research Intern

J.P. Morgan

We are now seeking applicants for Quantitative Research Intern Associate in our Singapore office.

About J.P. Morgan
J.P. Morgan is one of the most respected financial institutions in the world – which is why we can offer you an outstanding career. We have been doing first-class business in a first-class way for more than 200 years. Throughout our history, we have played a leading role in helping companies grow and markets develop. Globally we work together to deliver the best solutions and advice to meet our clients’ needs, anywhere in the world. We operate in more than 100 countries, and hold global leadership positions in each of our businesses. We have an exceptional team of employees who work hard to do the right thing for our clients, shareholders and the firm every day.

Quantitative Research
Quantitative Research is an expert quantitative modeling group in J.P. Morgan, an unchallenged leader in financial engineering, derivatives modeling and risk management. With more than 200 analysts worldwide, Quantitative Research partners with traders, marketers and risk managers across all products and regions.

Quantitative skills are a core capability of J.P. Morgan, contributing critically to product innovation, effective risk management and appropriate financial and risk controls. The team’s mission is to develop and maintain sophisticated mathematical models, cutting-edge methodologies and infrastructure to value and hedge financial transactions ranging from vanilla flow products to complex derivative deals. We also develop portfolio risk-measurement methodologies and quantify credit and market risk exposures and economic capital.

Intern opportunities
Through the diversity of the businesses it supports and the variety of functions that it is responsible for, the Quantitative Research group provides unique growth opportunities for its new intern to develop their abilities and their careers. Roles and responsibilities include the following:

- Developing mathematical models for pricing, hedging and risk measurement of derivatives securities
- Supporting trading activities by explaining model behavior, identifying major sources of risk in portfolios, carrying out scenario analyses, developing and delivering quantitative tools, and supporting analytics
- Evaluating quantitative methodologies - identifying and monitoring model risk associated with derivative valuation models
- Assessing the appropriateness of quantitative models and their limitations for valuation and risk management
- Implementing risk measurement and valuation models in software and systems
- Designing efficient numerical algorithms and implementing high performance computing solutions
- Designing and developing software frameworks for analytics and their delivery to systems and applications
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Qualifications
The ideal candidate will have:

- Enrolled in a PhD, Masters or equivalent degree program in math, sciences, engineering or computer science
- Exceptional analytical, quantitative and problem-solving skills
- Mastered advanced mathematics arising in financial modeling (i.e., probability theory, stochastic calculus, partial differential equations, numerical analysis) or should have exceptional software design and development skills using C++/Matlab
- Knowledge of equities derivative modeling and options pricing theory preferred but not required

Apply at:
Holiday Internship Opportunities for students from the department

(17 November 2016)

**CAT Modelling Intern**  
**SCOR**

Period: Dec 2016 – May 2017

**Company**  
With 38 offices worldwide and a € 13.4 billion annual turnover, SCOR is the 5th largest Reinsurance company in the world and is active on all continents in Life and Non-Life business with a strong global coverage through its hubs Paris-London, Zurich-Cologne, Singapore and Americas. In a competitive environment and with top level skills, SCOR promotes profitability, sustainability, empowerment, expertise and operational excellence.

**Job Summary**  
Assist with operational delivery of CAT analytics to key stakeholders using a variety of models and tools. Based in Singapore, the role-holder predominantly will be working with the APAC P&C treaty and fac teams analysing APAC catastrophe risks.

**Key duties and responsibilities**
- Utilize exposure data and perform analyses in catastrophe models
- Interpret modelling results and communicate to underwriters
- Contributing to the development and implementation of consistent processes and procedures for CAT pricing and accumulation control.
- Assist with various other projects related to NatCat as required

**Required experience & competencies**

**Experience:**
- Not required.

**Personal Competencies:**
- Interested in learning catastrophe modelling and reinsurance.
- Solid analytical, problem solving approach.
- Team player

**Digital Competencies:**
- Microsoft Excel, Access, SQL or VBA skills are a distinct advantage.

**Required Education**
- Tertiary education in relevant fields.

This role is posted on NUS TalentConnect under Job Reference Number: JR1600034952. Students are to apply to: jobsingaporehub@scor.com (Closing date: 30 Nov 2016).
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(15 November 2016)

(2 positions)

**JP Morgan**

Click the links for more information. Suitable for graduate students.

1. **2017 Summer Internship – Hong Kong**
   

2. **2017 Summer Internship – Beijing**
   
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(8 November 2016)

(2 positions)

Ministry of National Development

Period: January to May 2017

**Position 1**
To support the Policy & Planning team in MSO by developing and refining an algorithm to identify unique feedback incidents.

**Responsibilities & Job Scope**
The Municipal Services Office (MSO) was set up in October 2014 to work on improving the Government's overall coordination and delivery of municipal services. These services include, inter alia, the upkeep and improvement of the common living environment, such as the cleanliness and maintenance of the estates and the upgrading or provision of facilities and infrastructure.

As a coordinator, MSO has access to feedback data from our partner agencies via an integrated system. One of our core functions is to perform analysis on this data to better understand correlations and trends for key municipal issues and help agencies review their operations processes and resource allocation.

While we have rich feedback data, it is currently manpower intensive to distinguish if multiple feedback are about the same incident, or about different unique incidents. As such, MSO is looking to develop an algorithm that blends text, geospatial and temporal analysis to allow us to identify occurrences of unique incidents from public feedback. This will allow us to have a better understanding of the municipal issues on the ground and prioritise our resources more effectively to better address residents’ concerns. This also allows us to better identify and track recurring incidents, and design policy interventions to systematically resolve the issue.

**Special Knowledge / Skills Required**
- Understanding and implementation experience of descriptive statistics and regressions in Python/ R
- Working knowledge of geospatial information systems
- Understanding of machine learning algorithms such as logistic regression, decision trees, and neural networks.
- Experience with text analytics would be an added advantage

**Position 2**
Work as part of the team to improve the dashboard for municipal service delivery.

**Responsibilities & Job Scope**
The Municipal Services Office (MSO) was set up in October 2014 to work on improving the Government's overall coordination and delivery of municipal services. These services include, the upkeep and improvement of the common living environment, such as the cleanliness and maintenance of the estates and the upgrading or provision of facilities and infrastructure.
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As a coordinator, MSO has access to feedback data from our partner agencies via an integrated system. MSO has built a prototype dashboard on Qlik Sense to visualise this data to support agencies in generating insights and improving their work.

In the coming year, MSO will be working with our partner agencies to improve the dashboard and incorporate more datasets in order to generate richer insights for agencies. You will be joining the team engaging the agencies to understand their business and what guides their decision, and building new features for the Dashboard. This will improve their process efficiency and effectiveness, and drive the improvement of municipal services for residents.

**Special Knowledge / Skills Required**
- Experience in stakeholder engagement
- Familiarity with Qlik Sense. Candidates with experience in Tableau or other data visualisation tools will also be considered.
- Knowledge of SQL, HTML, CSS, Javascript and D3.js would be an added advantage.

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(7 November 2016)

Advanced Analytics Business Solutions
Seagate

Period: January to June 2017

- Develop analytics and data science solutions to solve/optimize technical problems in operations and engineering areas
- Utilize big data analytics tools and apply analytical techniques for data retrieval, preparation and discovery
- Implement data science algorithm and utilize big data advanced analytics platform to create applications for stakeholders
- Create visualization output to illustrate prediction result

Requirements
- Bachelor or Master degree in: Computer science, Mathematics, Statistics, Physics, Engineering or Computer engineering.
- Experience in data mining, data preparation and other analytic techniques
- Solid in applying statistical theories in problem solving
- Working experience in Python, R, SQL, C, C++ programming language
- Self-motivated, independent and a team player with strong communication and interpersonal skills
- Fast learner. Strong analytical capabilities. Good computational skills and basic knowledge of statistics. Creative problem-solving skills.
- Attention to detail and proactive

Preferred Skills/Knowledge*
- Computer language and applications experience in:
  - D3/Javascript
  - Shiny R studio, R Markdown
  - Spark
  - Java
  - Django
  - SAS
  - Matlab
  - Working experience in Hadoop
- Good Python proficiency

*Undergraduate students need not possess all these skills. If necessary, please make an appointment with Mr Muru (murusethu@nus.edu.sg) at the Faculty to discuss the requirements further.

Undergraduate students who are interested should apply online at https://aces.nus.edu.sg/sims/.

Graduate students who are interested should write directly to Ms Debbie Lim at debbie.sw.lim@seagate.com
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(26 October 2016)

(Various positions)

SCOR (global reinsurance company)

Period: Commences from December 2016

Please log-in to NUS TalentConnect to view the full Job Descriptions of each internship role and search with these Job Reference numbers:

- JR1600034572  LIFE CRO INTERN
- JR1600034573  Research Actuary Intern
- JR1600034575  Actuarial Experience Analysis Intern
- JR1600034571  Actuarial Intern, SEA
- JR1600027506  Intern – Strategy and Marketing

Interested students are to submit their application to: jobsingaporehub@scor.com
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(20 September 2016)

Quantitative Research Intern

WorldQuant

WorldQuant is a quantitative asset management firm founded in 2007 and currently has over 450 employees globally. We develop and deploy systematic financial strategies across a variety of asset classes in global markets, utilizing a proprietary research platform and risk management process.

We are seeking an exceptional Quantitative Research intern to work with a senior Portfolio Manager. This position is responsible for building models aimed at predicting price movements of various asset classes (equities, futures, FX, etc.).

Candidates need not have prior knowledge of financial markets, but must have a strong interest in learning about stock markets and financial markets. Our highly accomplished senior staff will provide the interns with mentoring and guidance to help them succeed.

Candidates holding or pursuing studying for BS (Hons), MS or PhD in in Math, Physics, Computer Science or Engineering is strongly preferred. Exceptional candidates without an advanced degree will also be considered. Prior quant analysis or trading experience is a benefit.

Job Responsibilities (include, but not limited to the following):
• Work with senior Portfolio Manager in building signals aimed at predicting movements of worldwide financial markets
• Review and experiment ideas from academic finance literature
• Automate the design framework to generate multiple signals
• Evaluate signals from a large pool of signals and noise

Job Qualifications
• Must be enrolled in accredited Masters or PhD degree; Bachelor (Hons) degree candidates will be considered
• Have experience working under Linux environment
• Have experience with scripting language, Python and shell scripting are required
• Programming skills, C/C++ is a must
• Machine learning course work is a plus
• Participated in data mining and or programming competitions

Position based in Singapore.

Interested and qualified candidates please email your current CV or any questions to WQSingaporeJobs@worldquant.com.

WorldQuant is an equal opportunity employer and does not discriminate in hiring on the basis of race, color, creed, religion, sex, sexual orientation or preference, age, marital status, citizenship, national origin, disability, military status, genetic predisposition or carrier status, or any other protected characteristic as established by applicable law.
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(2 June 2016)

Big Data Algorithms Internship (3 to 4 vacancies)
Terra Weather

Company Profile:
Terra Weather’s mission is to provide customized, accurate weather data, forecasts and consultancy through our latest technology, research, innovation and partnerships. We are committed to engaging our customers as team players, providing them with timely advice, solutions, alternatives and training needed to ensure the safety and success in their operations. As innovators, we advocate a culture of constant innovation. We believe in listening to our clients and the industry, providing them with new weather solutions cost effectively.

Specialties: Online Weather Services, Metocean Studies, Weather Forecasting, Environmental Studies, Metocean Measurement.

More information about the company can be found at http://www.terra-weather.com/.

Main Task for the Interns:
To develop and apply algorithms for big data processing.

Requirements:
- Passion for algorithms and programming
- Keen interest in big data processing

Remuneration:
Excellent remuneration for successful candidates ($1,200/month)

Assessment:
http://www.terra-weather.com/ly/challenge

Submit your resume and assessment result (compulsory) to recruit@terra-weather.com
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(2 June 2016)

Quantitative Researcher
Harveston Asset Management Pte Ltd

Company Description
The company is a leading strategic investment firm headquartered in Singapore with a global presence. With over 20 years of fund management experience, we embrace the values of excellent governance and financial discipline. The company uses a variety of strategies to trade multiple asset classes globally in a variety of frequencies. Primarily this has been around equities markets but we also extensively trade FX & derivative products. Sophisticated risk management is a big part of the firm’s ethos. Portfolio managers work closely with quants, risk analysts & developers to implement and optimize their ideas.

Key Responsibilities:
- Research systematic trading models in global equities, fixed income, currencies and commodities based on economic intuitions and/or asset price behavior.
- Propose trading strategies based on forecasting and data mining techniques, such as linear and non-linear regression analysis.
- Model back-testing and portfolio construction using MATLAB.

Requirements
- Strong knowledge of mathematics, especially stochastic calculus and statistics.
- Knowledge of Financial Mathematics for derivatives pricing, and associated numerical methods, e.g. Monte Carlo, PDEs and numerical integration.
- Ideally some initial experience in either a model validation role or front office quant team (up to 1 year, internships, etc...).
- Extensive programming experience in MATLAB
- Detail oriented, strong problem solver and collaborative personality
- PhD student in mathematics or statistics are also welcome to apply

Duration
- 3-6 months depending on the project. Part-time flexible working schedule.

Send application to:
Harveston Asset Management Pte. Ltd.
143 Cecil Street
#15-02 GB Building
Singapore 069542
Tel: 62262760
joanna@harveston.sg
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(15 Apr 2016)

Research Intern
*Risk Management Institute (RMI), National University of Singapore*

RMI aims to be a world-class centre in risk management through research, education and training, and is building up its expertise as a research centre for risk management and related fields. The primary responsibility of a Research Intern is to work with the research staffs to develop a pricing and risk management system of fixed income products, including callable bonds, puttable bonds, convertible bonds, interest rate floors and caps, corporate bonds with LIBOR rates, etc.

Individual with good knowledge of derivative pricing and risk management is encouraged to apply. Applicant should have a strong interest in research in the area of risk management, possesses good oral and written communication skills.

Applicants should submit their CV to rmiwens@nus.edu.sg. Shortlisted candidates will be notified and interviewed in late May.

Application deadline: 14 May 2016

We regret that only shortlisted candidates will be notified.