

HKU Fintech Symposium 2019

Unlocking AI and Data Analytics

Sponsored by China GBA Institute of Financial Innovation & Shenzhen Suoxinda Data Technology Company Limited

January 4, 2019 (Friday)

9:30 am – 5:00 pm

Rayson Huang Theatre
The University of Hong Kong

Programme and Abstracts



The University of Hong Kong
Department of Statistics and Actuarial Science

ORGANIZING COMMITTEE

Guosheng Yin Department of Statistics and Actuarial Science, HKU
Philip L.H. Yu Department of Statistics and Actuarial Science, HKU

INVITED SPEAKERS

Xinjian Cao Shenzhen Suoxinda Data Technology Company Limited
Joseph Fanghu Dong CITIC CLSA Limited
Jason J.C. Huo HSBC
Tze Leung Lai Stanford University
Spree K.B. Siu Manulife Financial Asia Limited
Leonhard Weese Bitcoin Association of Hong Kong
Samuel P.S. Wong 5Lattice Securities Limited and The University of Hong Kong
Philip L.H. Yu The University of Hong Kong
Hao Zou Abundy Inc, Stanford University and Tsinghua University

ACKNOWLEDGEMENT

The Organizing Committee would like to extend deep gratitude to the China GBA Institute of Financial Innovation & Shenzhen Suoxinda Data Technology Company Limited for sponsoring this Symposium.

GENERAL INFORMATION

Registration & Enquiry Desk

The Registration & Enquiry Desk will operate at the following time and venue:

<u>Date</u>	<u>Time</u>	<u>Venue</u>
Friday, 4 January	09:00 – 09:30	Rayson Huang Theatre, HKU

If participants require urgent assistance outside the operating times of the Registration & Enquiry Desk, they may visit the Department of Statistics and Actuarial Science, Room 303, 3/F, Run Run Shaw Building.

Opening Ceremony

Date: Friday, 4 January, 2019

Time: 09:30 – 09:45

Venue: Rayson Huang Theatre, HKU

Lunches & Dinner

Lunches and Dinner are by invitation only. You can find the details of canteens from the HKU food map.

Name Badges

Each participant will be issued a name badge upon registration. The badge will be the official pass to talks and coffee breaks. As access to events will be strictly controlled, it would be appreciated if you could wear your badge at all times. If any participants have lost their badges, they can contact the Registration & Enquiry Desk for a replacement.

Announcements and Notices

A message board will be placed near the Registration & Enquiry Desk for announcements and important notices.

Internet Facilities

HKU provides free WiFi service for visitors of the University to surf the Internet for research or administrative purposes on campus. Connection to Wi-Fi.HK via HKU is easy and no registration is required. However, Wi-Fi.HK via HKU has limited capacity and provides web browsing service only. The service uses unencrypted channel and hence, may not be secure. To connect PC/mobile device to Wi-Fi.HK via HKU service, please find the procedure here: <https://www.its.hku.hk/documentation/guide/network/wifi/wifihk>

Car Parking

Complimentary parking is available on campus. Please take the parking ticket to the Registration & Enquiry Desk for arranging complimentary parking.

No Smoking Policy

Smoking is prohibited in all areas of the campus, including corridors and restrooms.

Safety and Security

Please do not leave your belongings unattended at any times inside or outside the venue.

Disclaimer of Liability

The Organizer of the HKU Fintech Symposium 2019 will not accept any liability for damages of any nature sustained by participants or their accompanying persons, or loss of or damages to their personal property during the workshop or any related events.

The Secretariat

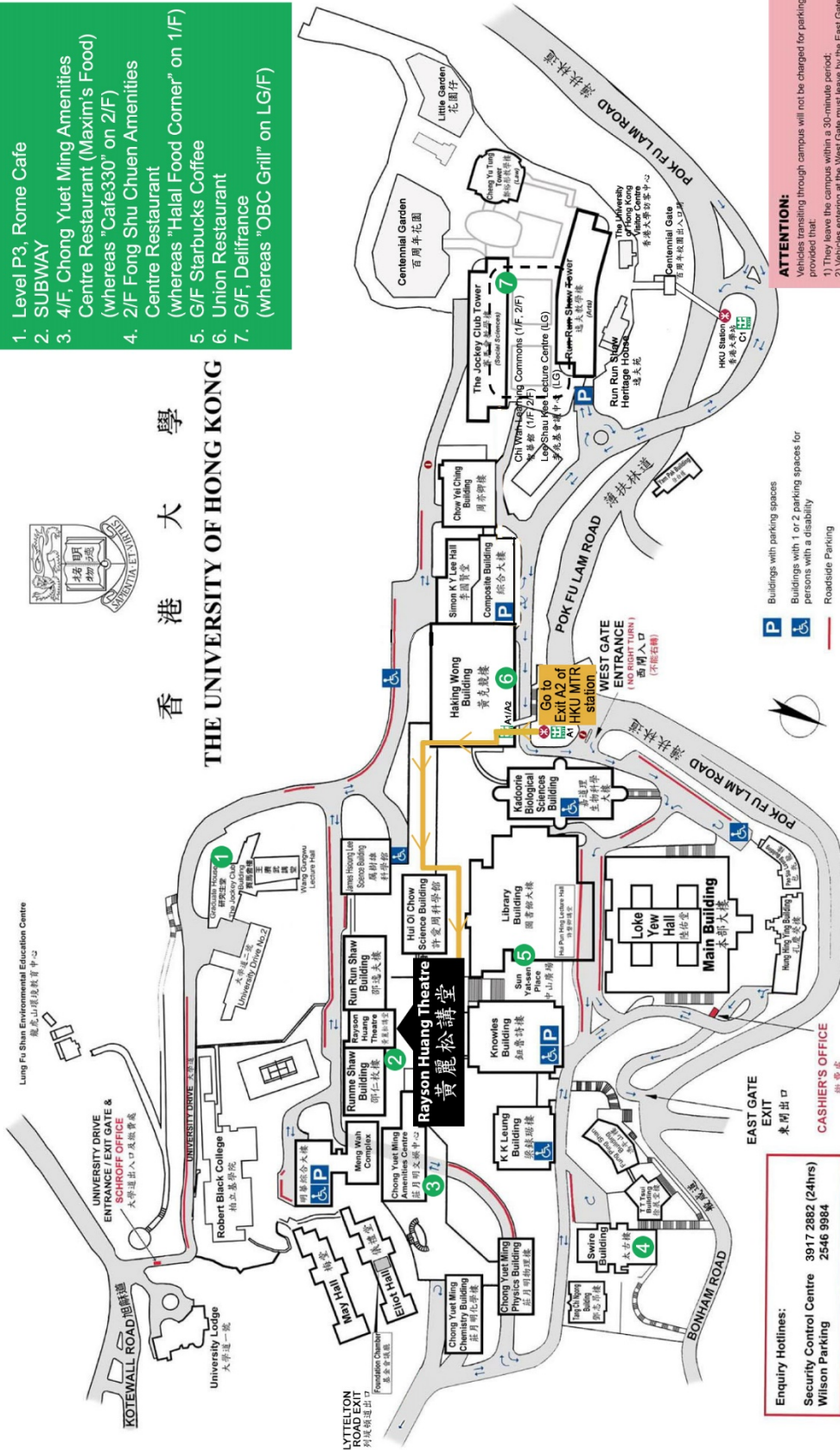
For all enquiries, please contact the Secretariat of the HKU Fintech Symposium 2019:

The Secretariat, HKU Fintech Symposium 2019
Department of Statistics and Actuarial Science
Room 303, 3/F, Run Run Shaw Building
The University of Hong Kong
Pokfulam Road, Hong Kong
Telephone: (852) 3917-8312
Facsimile: (852) 2858-9041
E-mail: enquiry1@saas.hku.hk

Conference venue and HKU food map

- HKU Food Map**
1. Level P3, Rome Cafe
 2. SUBWAY
 3. 4/F, Chong Yuet Ming Amenities Centre Restaurant (Maxim's Food) (whereas "Cafe330" on 2/F)
 4. 2/F Fong Shu Chuen Amenities Centre Restaurant (whereas "Halal Food Corner" on 1/F)
 5. G/F Starbucks Coffee
 6. Union Restaurant
 7. G/F, Delifrance (whereas "OBC Grill" on LG/F)

香港大學
THE UNIVERSITY OF HONG KONG



ATTENTION:
Vehicles transiting through campus will not be charged for parking.
1) The parking on this campus within a 30-minute period.
2) Vehicles entering at the West Gate must leave by the East Gate.
3) Vehicles entering at the University Drive gate must leave by the same gate.
Vehicles contravening these regulations will pay a parking charge.

注意:
時租車輛須利用同一門口進出方可享有30分鐘免費停車位。
由西門林道西門進入校園，必須經由東門道離開校園；同
樣地，由大學道進入校園，必須經由大學道同一離開；否則，
一律不會獲得免費的停車位及須繳付泊車費。

P Buildings with parking spaces
P Buildings with 1 or 2 parking spaces for persons with a disability
P Roadside Parking

Enquiry Hotlines:
Security Control Centre 3917 2882 (24hrs)
Wilson Parking 2546 9984

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SACS/22018

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PROGRAMME

January 4, 2019 (Friday)

Morning session	
09:00 – 09:30	Registration
09:30 – 09:45	Opening Address
09:45 – 10:15	<i>Quantitative Trading, Financial Technology, and Predictive Analytic</i> Tze Leung Lai Department of Statistics, Stanford University, USA
10:15 – 10:45	<i>Fintech: From Research to Deployment</i> Philip L.H. Yu Department of Statistics and Actuarial Science, HKU, Hong Kong
10:45 – 11:15	Photo Taking and Coffee Break
11:15 – 11:45	<i>Artificial Intelligence and Quantitative Trading</i> Hao Zou Abundy Inc., Stanford University and Tsinghua University
11:45 – 12:15	<i>Tailor-Making Investment Using Custom Index Derivatives</i> Joseph Fanghu Dong CITIC CLSA Limited, Hong Kong

12:15 – 14:00 Lunch

January 4, 2019 (Friday)

Afternoon session	
14:00 – 14:30	<i>Application of Recommendation System in Banking Industry</i> Jason J.C. Huo HSBC, Hong Kong
14:30 – 15:00	<i>Bank of Future: Embrace the Fintech</i> Xinjian Cao Big Data Business Department, Suoxinda Data Technology Co., Ltd. Shenzhen, China
15:00 – 15:30	<i>Demystifying the Use of AI & Analytics in Insurance</i> Spree K.B. Siu Regional Analytics – Asia, Manulife Financial Asia Limited, Hong Kong
15:30 – 16:00	Coffee Break
16:00 – 16:30	<i>Machine-to-machine Payments with the Lightning Network</i> Leonhard Weese Bitcoin Association of Hong Kong, Hong Kong
16:30 – 17:00	<i>Blockchain & Causality Inference</i> Samuel P.S. Wong 5Lattice Securities Limited and Department of Statistics and Actuarial Science, HKU, Hong Kong
17:00 – 17:05	Closing Remarks

18:00 Conference Dinner

HKU Fintech Symposium 2019

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ABSTRACTS

Xinjian Cao

General Manager, Big Data Business Department, Suoxinda Data Technology Co., Ltd.
Shenzhen, China

Bank of Future: Embrace the Fintech

Banking business and technology leaders agree that Artificial Intelligence (AI) is among the key trends that will reshape the industry. So, more and more Banks adopted the AI in various fintech projects. There are seven fintech scenarios, Mr Cao's discussion will focus on the Marketing Intelligence. Machine learning (ML) and artificial intelligence (AI) have driven increasingly more efficient data analysis, making it easier for financial marketers to deliver hyper-personalization to consumers. A real case study will be shared to illustrate how the AI and ML help bank marketers to apply the precision marketing.

Joseph Fanghu Dong

CITIC CLSA Limited, Hong Kong

Tailor-Making Investment Using Custom Index Derivatives

The talk gives a survey of the custom index derivatives business in respect of both theories and practices. The talk begins with the history and rationale of index investment including the recent development of investing in custom index derivatives as a structured product solution. We then delve into index building methodologies and the implications for structuring investible derivatives solutions on top, followed by volatility modeling and trading considerations that is essential to correctly price and risk manage such products. Finally, we explore possible routes to gain from the technological inventions in recent years efficiency and scalability for the business.

Jason J.C. Huo

Senior Analytics Architect, Retail Banking and Wealth Management Asia Pacific, HSBC

Application of Recommendation System in Banking Industry

Recommendation system is everywhere in our daily life, it is utilized in a variety of areas including movies, music, news, books, research articles, search queries, social tags, and products in general. For example, it finds out the merchants / items which a customer might be interested into after buying something else. The sharing starts with simple life example of video game recommendation, then comes the basic introduction of major algorithms for recommendation, e.g., Content-based, Collaborative filtering, Matrix Factorization & Deep Learning., etc. Finally, it will focus on the use case in banking industry: credit card offer recommendation.

Tze Leung Lai

Department of Statistics, Stanford University, USA

Quantitative Trading, Financial Technology, and Predictive Analytic

We give an overview of recent developments in portfolio optimization and active/dynamic portfolio management, optimal execution and placement in high-frequency trading, and data-driven decision analytics in the past decade following the Great Recession.

Spree K.B. Siu

Senior Director, Regional Analytics – Asia, Manulife Financial Asia Limited, Hong Kong

Demystifying the Use of AI & Analytics in Insurance

Insurance is by its nature a low touch industry, making it hard to differentiate and build loyalty with customers. It also explains why Insurance industry in general has limited data points. In this session, we will unfold the secret recipe by the AI & Analytics practitioners on how they make use of structured and unstructured data combined with machine learning techniques to enhance customer experience, as well as impacting insurance companies's daily operations.

Leonhard Weese

Bitcoin Association of Hong Kong, Hong Kong

Machine-to-machine Payments with the Lightning Network

Cryptocurrency payments have proven to be slow and expensive at scale. Using smart contracts on the Bitcoin Blockchain, we can build a second layer payment network that allows for instantly settled, low-cost transactions that can be used for micropayments between humans and machines. How do such networks functions, and what are its limitations?

Samuel P.S. Wong

5Lattice Securities Limited and Department of Statistics and Actuarial Science, The University of Hong Kong, Hong Kong

Blockchain & Causality Inference

On April 10, 2018, due to an outbreak of E. coli in romaine lettuce, the Center of Disease Control (CDC) issued a food safety alert that warned against people eating, businesses selling or restaurants serving romaine lettuce. The outbreak was finally ended around June 28, 2018. Within that period, as the source was still being tracked down, the sales of romaine lettuce went down sharply and the trough was close to 45% lower than that of the previous year. While there have been Blockchain service providers collaborating with consortium of leading food supply chain companies in food traceability and with medical service providers as well as insurance companies since 2017, how to swiftly make use of the collected data to extract timely causality statements, rather than only statistical association or correlation, is quite an important issue that has not been highlighted. This talk investigates the possibilities of applying the technology of causal inference to the data collected from integrated blockchain platform. It also discusses several related applications, such as smart order routing and design of circuit breakers, in modern quantitative finance.

Philip L.H. Yu

Department of Statistics and Actuarial Science, The University of Hong Kong, Hong Kong

Fintech: From Research to Deployment

In this talk, I will briefly introduce recent research projects including developing profitable trading strategies, the generalized pivotal quantity approach to portfolio selection, and estimating and forecasting high-dimensional covariance matrices using deep learning. I will highlight the challenges and opportunities in deploying the results into FinTech applications.

Hao Zou

Abundy Inc., Stanford University and Tsinghua University

Artificial Intelligence and Quantitative Trading

The rapid advance in artificial intelligence has brought with it new investment tools and approaches in the financial markets. In this talk, we will examine the ongoing trend as well as the impact of new technologies on quantitative investing.

