

Workshop Series on  
Recent Developments in Business Analytics  
and New Research Directions

Workshop on  
Machine Learning and Big Data Analytics

6 September 2018

Organizers



數學及統計學系  
DEPARTMENT OF MATHEMATICS & STATISTICS  
恒生管理學院  
HANG SENG MANAGEMENT COLLEGE



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**6<sup>th</sup> September 2018 (Thursday), 15:30 - 18:30**  
**(Venue: A401, Block A, Hang Seng Management College)**

<b>Time</b>	<b>Activity</b>
15:30 – 15:45	<i>Opening Remarks - Prof. Lawrence LEUNG</i> Dean, School of Decision Sciences, Hang Seng Management College
15:45 – 16:30	Prof. Hong YAN Chair Professor of Computer Engineering, City University of Hong Kong <i>“Co-clustering Analysis of Multidimensional Big Data”</i>
16:30 – 17:00	<i>Refreshment</i>
17:00 – 17:45	Mr. Tak CHU Founder, Big Data Architect Ltd. <i>“The Challenges of Big Data Integration”</i>
17:45 – 18:30	Dr. Dennis LEUNG Director of Presales, SAS Hong Kong <i>“Advancing with Artificial Intelligence”</i>

# Co-clustering Analysis of Multidimensional Big Data

Prof. Hong YAN, City University of Hong Kong

## Abstract

Multidimensional big datasets are being produced in many applications due to the rapid development of electronic and communications systems. Although a dataset can be very large, it may contain coherence patterns much smaller in size. For example, we may need to detect a subset of genes that co-express under a subset of conditions. In this presentation, we discuss our recently developed co-clustering algorithms for the extraction and analysis of coherent patterns in big datasets. In our method, a co-cluster, corresponding to a coherent pattern, is represented as a low-rank tensor and it can be detected from the intersection of hyperplanes in a high dimensional data space. Our method has been used successfully for DNA and protein data analysis, disease diagnosis, drug therapeutic effect assessment, and feature selection in human facial expression classification. Our method can also be useful for many other real world data mining, image processing, machine learning and pattern recognition applications.

## About Prof. Hong YAN

Hong Yan received his PhD degree from Yale University. He was Professor of Imaging Science at the University of Sydney and is currently Chair Professor of Computer Engineering at City University of Hong Kong. His research interests include image processing, pattern recognition and bioinformatics, and he has over 300 journal publications in these areas. Professor Yan was elected an IAPR fellow for contributions to document image analysis and an IEEE fellow for contributions to image recognition techniques and applications. He received the 2016 Norbert Wiener Award from the IEEE SMC Society for contributions to image and biomolecular pattern recognition techniques.

# The Challenges of Big Data Integration

**Mr. Tak CHU, Big Data Architect Ltd.**

## **Abstract**

Using traditional data processing applications are inadequate in implementing Big Data Project. The integration of huge data set is quite complex. There are several challenges one can face during this integration such as analysis, data curation, capture, sharing, search, visualization, information privacy and storage. Developing big data platform is to handle the data in new ways as compared to the traditional relational database with higher accuracy in managing big data managers can be more confident in decision making. In this presentation, we will discuss the integration of big data and different challenges that can be faced during the process.

## **About Mr. Tak CHU**

Mr. Tak Chu worked at Electronic Data Systems Corporation (EDS) as a programmer in 1970s when he was a student. Since then, he has worked for EDS for 14 years. The clients he has served include US General Motors, US Federal Government, and US Department of Defense. He has also been engaged in Healthcare Insurance Planning of US State Government and designing HK Immigration Management System Solution.

In 1993, Mr. Chu joined Software AG, a German Company whose clients cover 7 departments under former British HK Government, Hong Kong Air Cargo Terminals Limited (Hactl), Television Broadcasts Company (TVB), and Henderson Land Group. Meanwhile, he provided his professional consultancy service involving Data Mining and Business Intelligence for a series of IT companies, such as Prism, Ardent, Informix, Ascential, IBM and so on.

In 2013, Mr. Chu started to form his own team to serve local enterprises in HK. The clients were listed as follow: Johnson Electric, Lane Crawford, Golden Peak, Thai Farmers Bank, Bank of Philippine Islands, Chunghwa Telecom, TVB, Octopus, Hong Kong Airport Authority and various financial institutions in HK.

In 2014, Mr. Chu, along with Dr. Peter Kwan, co-founded Big Data Architect Limited (BDA).

# Advancing with Artificial Intelligence

Dr. Dennis LEUNG, SAS Hong Kong

## Abstract

Artificial intelligence (AI) makes it possible for machines to learn from experience, adjust to new inputs and perform human-like tasks. Most AI examples that you hear about today – from chess-playing computers to self-driving cars – rely heavily on deep learning and natural language processing. Using these technologies, computers can be trained to accomplish specific tasks by processing large amounts of data and recognizing patterns in the data. SAS has been delivering AI and machine learning technologies to customers for decades. Today we help customers in every industry capitalize on advancements in AI and continue to innovate AI capabilities in contemporary areas such as deep learning, computer vision, natural language, forecasting and optimization.

## About Dr. Dennis LEUNG

Dennis Leung is Director of Presales for SAS Hong Kong. He leads a team of presales specializing on different area of analytical expertise and industrial practice. He is an industry veteran for over 30 years and has experience on software development, consultant, presales and sales in various Fortune 500 companies. Dennis' specialty in analytics is real time predication engineering structure dynamics and Case Base Reasoning.

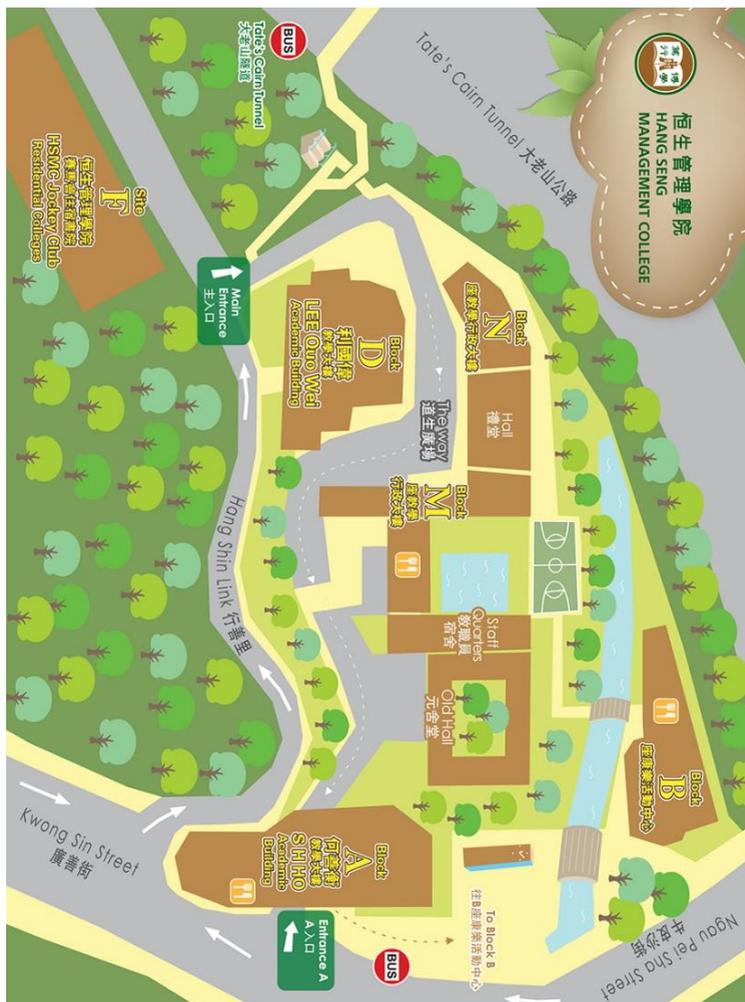
Prior to joining SAS, Dennis served various senior roles in Oracle including GM Application Sales of Oracle Hong Kong and GM Applications Channel for Oracle APAC.

Dennis holds a degree in Engineering and PhD in Structural Dynamics from UCL, London University UK.

# Hang Seng Management College

## Transportation & Directions:

<http://www.hsmc.edu.hk/en/visitors/campus-map2/>



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