

# The Hong Kong University of Science and Technology

Department of Information Systems, Business Statistics and Operations Management

## Seminar Announcement



### Consumer Preference Exploration with Unexpected Recommender System

by

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**Date** : **Wednesday, 26 October 2022**  
**Time** : **10:30 am - 12:00 pm**  
**Venue** : **ISOM Conference Room, LSK 4047**



#### **Abstract:**

One of the key issues with recommender systems is the filter bubble phenomenon when consumers are presented only with familiar and repeated types of recommendations, and therefore being isolated in the information bubble. To address this problem and explore consumer preferences, I present a novel approach to providing unexpected recommendations that significantly deviate from consumer expectations, and thus pleasantly surprise them. Specifically, I formulate the unexpectedness objective using state-of-the-art deep learning methods, and then incorporate it into the utility function in a personalized manner that captures heterogeneous consumer propensity to seek product variety. In particular, I demonstrate that it is desirable to provide more unexpected recommendations to variety-seekers, and vice versa. By conducting a large-scale online controlled experiment at the video streaming platform of Alibaba, I show that the proposed model significantly increases various business performance metrics used at the company in comparison to their latest production system. The proposed model has been deployed at Alibaba-Youku serving consumers in the short-video streaming applications.

#### **Bio:**

Pan Li is a sixth-year PhD candidate in the Department of Technology, Operations and Statistics at Stern School of Business, New York University, and a visiting researcher at Google Brain. His research focuses on developing novel recommender systems to improve consumer experiences. The results of his work were published in 12 journal and conference papers, and some of his proposed methods were implemented by the leading tech companies, including Alibaba and Baidu. He has won the Best Dissertation award and the Best Student Paper Runner-Up award at the WITS 2021 Conference, and has been invited to present his research at the doctoral consortia of WSDM, RecSys and WITS conferences.