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Research Cases on the Applications of Data-Driven Methods in Smart Cities

Dr. WANG Hai

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Date: December 28, 2023 (Thursday)

Time: 3:00 pm – 4:00 pm

Venue: Room 612B, 6/F Haking Wong Building, The University of Hong Kong

Abstract

The rapid development and widespread adoption of mobile devices, sensors, IoT, and communication technology have led to the generation of vast volumes of multi-source, high-dimensional data in various systems within the broader framework of smart cities, including transportation, logistics, e-commerce, healthcare, etc. Consequently, numerous data-driven methods have been developed and implemented to address research challenges related to the design and operations of these systems. In this talk, we will briefly discuss several research cases on the applications of data-driven methods in smart cities. These cases include: (1) Descriptive methods for mobile transaction digits distribution and crowd-sourcing food delivery operations; (2) Predictive methods for ICU patient condition evaluation and freelance platform service quality prediction; (3). Prescriptive method for shared transportation ride matching and feeder vessel transshipment routing and scheduling. Through these cases, we aim to showcase the diverse applications of data-driven methods in addressing some key challenges in smart cities.

About the Speaker

Dr. WANG Hai is an Associate Professor in the School of Computing and Information Systems at Singapore Management University and a visiting teaching faculty at the Heinz College of Information Systems and Public Policy at Carnegie Mellon University. He is the Singapore PI for the interdisciplinary AI research program at Singapore-MIT Alliance for Research and Technology. He received B.S. from Tsinghua University and Ph.D. in Operations Research from MIT. His research focuses on methodologies of analytics and optimization, data-driven decision-making models, machine learning algorithms, and their applications in smart cities, transportation, and logistics systems. He has published in leading journals such as Transportation Science, American Economic Review P&P, M&SOM, Fundamental Research, and Transportation Research Part B/C/E and has long term collaborations with leading companies such as Meituan, Tencent, DiDi, Grab, and Upwork. He serves as Associate Editor for Transportation Science and Service Science, Special Issue Editor for Transportation Research Part B/Part C, and Service Science, and Editorial Board Member for Transportation Research Part C/Part E. Dr. Wang was selected as Chan Wu & Yunying Rising Star Fellow in transportation and mobility, received Lee Kong Chian Research Excellence Award twice, was nominated for MIT's top graduate teaching award, and won the Excellent Teaching award for junior faculty at SMU. During his Ph.D. studies at MIT, he also served as the co-President of the MIT Chinese Students & Scholars Association and as Chair of the MIT-China Innovation and Entrepreneurship Forum.

- ALL ARE WELCOME -