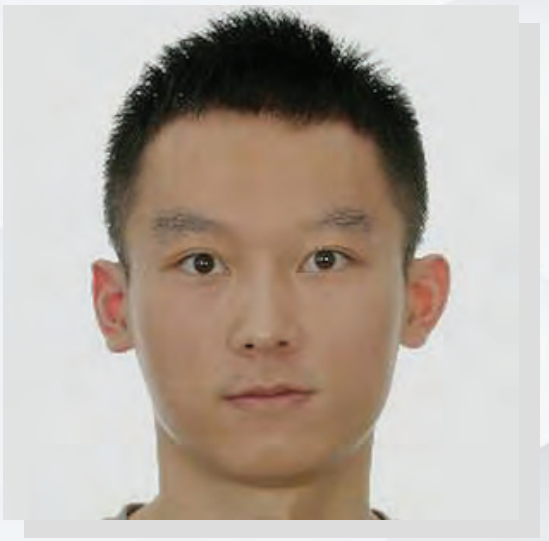
Department of
Systems Engineering
香港城市大學
City University of Hong Kong

Multi-Criteria Decision Making and its Applications



Dr. Jiang Hongyi
Postdoctoral Research Associate
Cornell University, USA

14 May 2024 (Tue) | 10:30 am

Seminar Link: https://cityu.zoom.us/j/91429469549

Abstract
In this presentation, I will discuss two projects that illustrate the development and application of multi-criteria decision-making methods to address challenges in network design and operational optimization for urban-scaled transportation systems. The first project focuses on optimizing transit line planning, balancing factors such as efficiency, cost, sustainability, and equity, and I will present the corresponding models and algorithms with performance guarantees that we have developed. I will also briefly introduce two extended ongoing works stemming from this research. The second project tackles the multi-criteria route planning problem within stochastic environments, aiming to develop online learning frameworks that integrate approximation algorithms to provide new insights to both the transportation science and machine learning communities. To make it more concrete, I will introduce one of our publications on maximizing on-time arrival reliability under uncertain conditions and a related ongoing work.

About the Speaker
Hongyi Jiang is a Postdoctoral Research Associate at Cornell University, working under the guidance of Professor Samitha Samaranayake. He obtained his Ph.D. in Applied Mathematics and Statistics from Johns Hopkins University, where he was advised by Professor Amitabh Basu. Dr. Jiang's research focuses on developing efficient and theoretically robust algorithms for combinatorial optimization problems and its interplay with artificial intelligence, motivated by practical applications. His work aims to bridge the gap between theory and practice in these fields.

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