Postdoctoral Fellow Positions

National University of Singapore

Description

Postdoctoral researcher positions are funded in the areas of urban mobility and smart city. The postdoctoral researchers will work with PI and co-PIs in the Department of Civil and Environmental Engineering and the Department of Industrial System Engineering and Management. The research project aims to develop data-driven and learning-based methodology frameworks for urban mobility management. It is expected to deliver intelligent decision tools through reinforcement learning, simulation, and optimization techniques. Strong expertise in traffic simulation, mathematical programming, and learning-based optimization is required. The postdoctoral researcher will lead funded research projects, supervise research students, and write research proposals and reports.

This is a full-time position, and the duration of the first contract is one year. There is an opportunity to extend the position to multiple years, depending on the performance in the first year and the availability of funding.

Qualifications

- Ph.D. degree obtained or expected to be obtained in a related discipline (transportation engineering, operations research, computer engineering/science, or related disciplines) by December 2023
- strong interests and expertise in traffic simulation, statistical modeling, mathematical programming, reinforcement learning, and optimization
- strong written and oral communication skills
- expertise and work experience in traffic simulation software and programming with at least one language, e.g., Python, Java, or C++

Principal Investigator: Dr. Yang Liu
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Dr. Liu Yang is jointly appointed as an Associate Professor in the Department of Civil and Environmental Engineering and the Department of Industrial Systems Engineering and Management at the National University of Singapore. She received her B.S. from Tsinghua University, MPhil from Hong Kong University of Science and Technology, and Ph.D. from Northwestern University. Previously, Dr. Liu worked as a consultant at Cambridge Systematics and provided modeling expertise to public agencies such as the Chicago Department of Transportation. Dr. Liu's research focuses on urban mobility and transport, which covers topics in the areas of ridesharing and carsharing systems operations and management, traffic congestion management, and data-driven transportation system modeling and analysis. She is

leading the Lab for Urban Mobility Systems (LUMOS) (https://www.nuslumos.org). Her work has been published in major journals in the transportation area, including Transportation Research Part A, Part B, Part C, Part E, and Transportation Science. Currently, she serves on the editorial boards of Transportation Science (Associate Editor), Transportation Research Part C, and Socio-Economic Planning Sciences (Associate Editor). She is a co-chair of WTC Shared Logistics and Transportation Systems Committee, a member of Transportation Research Board Standing Committee on Emerging and Innovative Public Transport and Technologies (AP020) and Transportation Network Modeling (AEP40), Co-Chair of Academic Affairs on the Chinese Overseas Transportation Association (COTA) Board of Directors, and a member of WCTRS Special Interest Group Transport Theory and Modelling.

Lab for Urban Mobility Systems (LUMOS):
Webpage：https://www.nuslumos.org

The mission of the Lab for Urban Mobility Systems (LUMOS) is to drive innovation in intelligent transportation systems, formulate new design and operational strategies, and develop effective solutions for transportation challenges. We are committed to bridging the gap between academic research and industry collaboration, all with the goal of enhancing the mobility, reliability, and sustainability of transportation systems. At LUMOS, we dedicate our efforts to shaping the future of urban mobility and transport systems. Our focus areas include shared mobility system operation and design, travel demand and congestion management, and the development of data-driven transportation system modeling and analysis.