

# Yuan-Zheng Lei

Department of Civil and Environmental Engineering, University of Maryland  
1173 Glenn L. Martin Hall, College Park, MD 20742, United States

Mobile: 202-860-5391

Email: yzlei@umd.edu

URL: <https://yuanzhenglei.github.io/>

Born: March 25, 1997— Hunan, China

Nationality: China

## Research Interest

Transportation; Game theory; Optimization; Applied statistics.

## Research Experience

- 2019-2022 **National United Engineering Laboratory of Integrated and Intelligent Transportation, Chengdu, Sichuan, China** Project: Regional Rail Transit Collaborative Transportation and Service System
- 2019-2022 **National United Engineering Laboratory of Integrated and Intelligent Transportation, Chengdu, Sichuan, China** Project: A Hybrid Simulation System of Multi-modal Rail Transit Trains Operation of the Chengdu-Chongqing Economic Circle

## Education

- 2015-2019 BSc in Railway Engineering, Southwest Jiaotong University, Chengdu
- 2019-2022 MSc in Transportation Planning and Management, Southwest Jiaotong University, Chengdu
- 2022-present PHD STUDENT in Transportation Engineering, University of Maryland, College Park

## Publications and Technical reports

### WORKING PAPERS

Yuan-Zheng Lei, Yaobang Gong, and Xianfeng Terry Yang, “Pareto parameter estimation: a convex-hull geometric search approach”

### TECHNICAL REPORTS

- 2023 Yuan-Zheng Lei, Yao Cheng, and Xianfeng Terry Yang, “An optimization-free approximation Framework for Connected and Automated Vehicles Eco-Trajectory Planning Under limited computing capacity,” Under revision in **Transportation Research Part C: Emerging Technologies**

## JOURNAL ARTICLES

- 2024 Yuan-Zheng Lei, Yaobang Gong, and Xianfeng Terry Yang, “Unraveling Stochastic Fundamental Diagrams with Empirical Knowledge: Modeling, Limitations, and Future Directions,” Forthcoming in **Transportation Research Part C: Emerging Technologies**
- 2022 Yuan-Zheng Lei, Gongyuan Lu, Hongxiang Zhang, Bisheng He and Jinxin Fang, “Optimizing total passenger waiting time in an urban rail network: A passenger flow guidance strategy based on a multi-agent simulation approach,” **Simulation Modelling Practice and Theory**
- 2022 Hongxiang Zhang, Gongyuan Lu, Yuan-Zheng Lei, Guangyuan Zhang and Irene Niyitanga, “A hybrid framework for synchronized passenger and train traffic simulation in an urban rail transit network,” **International Journal of Rail Transportation**
- 2022 Gongyuan Lu, Yuan-Zheng Lei and Hongxiang Zhang, “Passenger flow control strategy of urban rail transit based on Multi-Agent Simulation,” **Journal of Tongji University(Natural Science)**

Last updated: September 14, 2024