Kangyu LIANG

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Research interests: transportation data science, machine learning, smart urban mobility

EDUCATION & COURSES

09/2022-06/2025	*M.Eng. Transportation Planning and Management* **Beijing Jiaotong University**	**GPA: 84.5/100**
09/2018-06/2022	*B.Eng. Transportation Engineering* **East China Jiaotong University**	**GPA: 89.2/100**

- Triple A Student (2020), First Class Scholarship (**top 3%**)

PUBLICATION

[1] **Kangyu Liang,** Yongsheng Zhang, Enjian Yao, "A Method for Predicting Real-Time Carriage-Level Alighting Flow Based on Train Weighing Data by Incorporating Correlations Among Carriages," in ***IEEE Sensors Journal***, vol. 24, no. 13, pp. 21604-21613, 1 July1, 2024. DOI: 10.1109/JSEN.2024.3397703

[2] Yongsheng Zhang, **Kangyu Liang**, Enjian Yao, Mingyi Gu, "Measuring Reliable Accessibility to High-Speed Railway Stations by Integrating the Utility-Based Model and Multimodal Space–Time Prism under Travel Time Uncertainty," in ***ISPRS International Journal of Geo-information.*** 13(263), 2024, pp.1-14. DOI: https://doi.org/10.3390/ijgi13080263

[3] **Kangyu Liang,** Yongsheng Zhang, Zhouhang Li. Analysis on Railway Station Choice Behaviour Affected by Urban Transport Accessibility in a City with Multiple Stations. ***ITS World Congress.***

RESEARCH EXPERIENCES

09/2022-7/2024	***Regional Combined Travel Decision-Making Mechanism Under Time Uncertainty Based on Multi-Source Data***

Advisor: *Prof.* Yongsheng Zhang.
1. Using Google Maps, travel time data for various transportation modes were crawled over a week, and a reliable space-time prism was constructed under travel time uncertainty.
2. Developed a utility-based model to explore perceived impedance and travel behaviour when choosing a travel mode.
3. Integrated the utility-based model and the space-time prism to measure and evaluate accessibility within Beijing's Fifth Ring Road.

Outcome: Published a research article as the second author in the ***International Journal of Geo-information.***

04/2023-03/2024	***Short-Term Metro Passenger Demand Forecasting Using Multi-Source Data***

Advisor: *Prof.* Yongsheng Zhang.
1. Extracted the carriages' alighting flow and in-vehicle flow in different periods based on train schedule data and train weighing data.
2. Developed an alighting flow monitor algorithm and built a multi-channel Conv-LSTM model to predict the carriages' alighting flow.
3. Evaluated the model on Guangzhou metro line 14 and assessed the usage of each carriage.

Outcome: Published a research article as the first author in the ***IEEE Sensors Journal.***

PATENTS

LIANG, K[2]. (2020, December 10). *CN112418556A - Gridding Service System Based on Internet Sharing Platform*
LIANG, K[2]. (2020, January 30). *CN111232014B - Method for Detecting Switch Tongue Clinging to Stock Rail*

SOFTWARE COPYRIGHTS

LIANG, K[3]. *Highway Vehicle Safety Speed Limit Early Warning System Based on Internet of Vehicles V2I*
LIANG, K[3]. *Smart Car Forward Collision Avoidance System Based on Internet of Vehicles V2X*

OTHER SKILLS & ACHIEVEMENTS

Achievements:
- Outstanding Student Paper Award at the International Symposium on Intelligent Construction and Smart Engineering of Transportation Infrastructure in 2023.
- Provincial First Prize for National Mathematical Modelling Competition in 2020.
- National Second Prize in the National English Competition for College Students in 2019.
- Provincial Second Prize for Certificate Authority Cup International Mathematical Contest in Modelling in 2019.

IT: MS Office, Python, MATLAB, Visio, C.
Languages: Chinese (native), English (IELTS: 6.5(6))