Buke Lyu

Beijing Jiaotong University | Tel: +86 188 1305 1135

lyubuke@gmail.com | Personal Website: bukelyu.com | Github: bookervsky

Education

M.E. in Transportation Planning and Management — Sept 2023 – Present
Beijing Jiaotong University, Beijing, China
GPA: 3.15/4.0

B.E. in Traffic Engineering — Sept 2018 - June 2022
Beijing Jiaotong University, Beijing, China
GPA: 3.1/4.0

Publications

[1] Z. Liu, **B. Lv**, Z. Liu, et al. "Impact of Spatio-Temporal evolution of freeway networks on Socio-Economic Dynamics: A case study from Fujian, China." ***Transportation Research Part A: Policy and Practice***, vol. 198, 2025/08/01, doi: 10.1016/j.tra.2025.104521.

[2] (Accepted) Z. Liu, **B. Lv**, X. Fu, et al. "Analysis of Spatial Characteristics and Driving Factors of Urban Public Transportation Travel Based on Point of Interest Data." ***Railway Transport and Economy***.

Research Experiences

Time-restricted On-street parking management under road congestion — April 2025 - present

- **Aims:**
  Explore the bidirectional relationship between time-restricted on-street parking management and transportation network equilibrium in the context of urban road networks.
- **Methodology:**
  1. A Discrete network design problem was proposed to capture the interaction between on-street parking policy(upper-level) and the user equilibrium traffic assignment(lower level).
  2. Global optimization was pursued by iterative bound-tightening. Computed LB by solving Relaxed problem with Kelly's cutting plane method, UB with Frank-wolfe algorithm. Added UE-reduction cuts and no-good cuts to accelerate convergence.

Impact of Spatio-Temporal evolution of freeway networks on Socio-Economic Dynamics: A case study from Fujian, China — Oct 2023 - May 2025

- **Aim:**
  Explore the relationship between freeway network evolution and socio-economic dynamics.
- **Methodology:**
  Multiscale geographically and temporally weighted regression (MGTWR) was employed to quantify the economic stimulatory effects of freeway network evolution.
- **Contribution:**
  Implemented the MGTWR model and co-authored the manuscript.
- **Achievements:**
  A paper published on ***Transportation Research Part A: Policy and Practice***.

Employment Experience

Algorithm Engineer Intern — June 2025 – Aug 2025
UHAlean Information Technology (Shanghai) Co., Ltd – Beijing

- Designed and implemented a suite of demand forecasting algorithms for Shell plc oil products. Deployed algorithms included time-series methods (ARIMA, Exponential Smoothing) and machine learning algorithms (XGBoost).

- Engineered and implemented an advanced production scheduling plan for VitaSoy beverage production, formulated and solved a multi-objective optimization problem under real-world complex constraints.

Project Assistant May 2023 – Sept 2023
Beijing Zohetec Co., Ltd – Beijing

SKILLS

Programming Languages: Python, Java, Shell
Solver: Gurobi
Data Analysis: Python(pandas, numpy), SQL, IBM SPSS
GIS: ArcGIS, QGIS
DevOps&Tools: Git, Docker, Latex, Markdown
Operating system: Linux, Windows
Language: English(**IELTS 7.5**), Mandarin Chinese(Native)

Awards & Honors

National Scholarship, Oct 2025
Second Class scholarship, Oct 2024
Third Class scholarship, Dec 2019
Second Prize in 2019 Beijing Jiaotong University College Student Mathematics Competition, July 2019

Research Interests

Transportation network modeling and optimization
Autonomous and connected vehicles
Transportation Economics
Spatio-Temporal Traffic Analysis