

Donghang Li

Email: lidonghang1103@gmail.com | Tel: +86 19801181103

Address: College of Urban and Environmental Sciences, Peking University, Beijing, P.R. China

EDUCATION

Peking University, College of Urban and Environmental Sciences

Beijing, China

Bachelor of Engineering in Urban Planning

Aug 2019 – Jun 2024 (Expected)

GPA: **3.85/4.0**(WES)

Courses: Probability and Statistics (99), Academic English Writing (96), Transport Analysis Modelling and Planning (95), Urban Infrastructure Planning (95), Applications of GIS in Planning (94.5), Introduction to Computation (93.5), Urban Road System and Transportation Planning (92), Quantitative Geography (91), Experiment of GIS (91), Urban Economics (90.5), Urban Spatial Structure (90), Urban Design (90)

Peking University, National School of Development

Beijing, China

Dual Bachelor of Arts in Economics

Sep 2020 – Jun 2024 (Expected)

GPA: **4.0/4.0**(WES)

Courses: Development Economics (98), Applied Micro Econometrics (95), Intermediate Microeconomics (95), Intermediate Macroeconomics (94), Econometrics (93), Principles of Economics (90)

RESEARCH EXPERIENCE

MIT JTL Urban Mobility Lab

June 2023 – Sep 2023

Exploring the Causal Impact of Commuting Time on Remote Work Preferences

Research Intern at MIT-UF-NEU Summer Program, Advisor: Prof. Jinhua Zhao & Prof. Shenhao Wang

- Conduct data cleaning and analytics of the SWAA Traffic Survey dataset, yielding over 100,000 samples. Use Python to conduct descriptive statistical analysis and exploratory data visualization.
- Use Poisson Regression to analyze the effects of commute patterns on people's preference towards remote work and explore the heterogeneity along the temporal, spatial, and socio-demographic dimensions.
- Conduct a causal inference using econometrics methods Propensity Score Matching (PSM) and Generalized Propensity Scores (GPS) to eliminate the selection bias. Our findings revealed a non-linear relationship between commuting time and telework preferences, with moderate commuting time impacting negatively.

Peking University

Jul 2021 – Oct 2022

Analysis of Traffic Conflicts at Intersections by Video Surveillance Data Based on Game Theory Model

Sponsored by the President's Fund of Peking University Undergraduate Research, Advisor: Prof. Liyan Xu

- Utilize Deep Learning methods, specifically *YOLO v8*, to identify the motor vehicles, bicycles, and e-bikes in the video surveillance, combined with *ByteTrack* algorithms for trajectory extraction analysis and moving parameters calculation.
- Employ the Quantal Response Equilibrium (QRE) model in game theory to simulate the decision-making process of traffic participators. The QRE model extends the traditional Nash equilibrium to account for less rationality and potential decision errors by introducing the rationality factor.
- The results revealed that e-bikes disrupted mutual understanding between vehicles and pedestrians for their lower driving rationality, impacting both traffic efficiency and safety negatively.

The final draft paper *Vehicles, Pedestrians, and E-bikes: a Three-party Game at Right-turn-on-red Crossroads Revealing the Dual and Irrational Role of E-bikes that Risks Traffic Safety* is under review.

WORKING EXPERIENCE

China Academy of Urban Planning & Design (CAUPD)

Aug 2023 – Nov 2023

Urban Planner Intern at the Institute of Urban Regeneration (IUR)

- Conduct spatial analysis to identify urban problems, such as the distribution of population, industries, and the placement of public service facilities.
- Organize and analyze relevant policy documents about urban planning, focusing on regional synergy, industrial development, and urban renewal issues, and write research reports.
- Participate in the urban master planning of Suzhou City (Jiangsu Province) and Shaoxing City (Zhejiang Province), including drafting planning documents and proofreading graphic sets.

PROFESSIONAL WORKS

Carbon Sink Capacity Enhancement Planning of Beijing Green Space System

Mar 2023 – June 2023

Advisor: Prof. Zhifang Wang

- Utilizing the improved Carnegie-Ames-Stanford Approach (CASA) model through R programming language, evaluate the carbon sink patterns of vegetation at a 100m resolution in Beijing.
- Through GIS overlay analysis, considering the natural vegetation types, climate conditions, and plant growth conditions, evaluate the regional potential of carbon sinking in Beijing.
- Considering the present pattern and potential of carbon sink in Beijing and the green space types, propose suggestions to improve Beijing's green space system planning and conduct landscape design.

Spatial-temporal Analysis of Beijing Traffic Flow Based on Taxi Trajectory Big Data

Feb 2022 – June 2022

Advisor: Prof. Pengjun Zhao

- Use Python to clean and deduplicate trajectory datasets, then apply nearest-neighbor methods to match cleaned GPS trajectory points to road networks.
- Employ the Manhattan distance method to calculate the speed of trajectory points considering Beijing's unique road network structure. Segregate by time periods and roads to conduct statistical analysis, observing the spatial and temporal characteristics of traffic flow volume and speed in Beijing.
- We found that the evening rush hours generally experienced longer and more severe congestion, compared to the morning rush hours. Spatially, lower-grade roads in the city center experience more severe congestion.

AWARDS

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| • China Economic Research Fellowship (Peking University) | Dec 2023 |
| • China National Scholarship (Ministry of Education of the PRC) | Dec 2023 |
| • Merit Student Pacesetter of Peking University | Dec 2023 |
| • Award for Academic Excellence (Peking University) | Dec 2022 |
| • Outstanding Volunteer (Peking University Admissions Office) | Nov 2022 |
| • The Third Prize of Peking University Scholarship | Dec 2021 |
| • Award for Scientific Research (Peking University) | Dec 2021 |
| • The Third Prize of Peking University Scholarship | Dec 2020 |
| • Merit Student of Peking University | Dec 2020 |

SKILLS

- **Language:** Chinese (native), English (fluent, TOEFL 110, GRE 330)
- **Programming Language:** Python, R, Stata
- **Software:** Office Suites, Adobe Creative Suites, QGIS, ArcGIS, SPSS, AutoCAD, SketchUp