

Nuoxian Huang

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Education

Peking University

Sept 2022 – Jun 2025

MSc in Urban and Regional Planning (Smart Cities and Big Data)

(expected)

- GPA: 3.6/4.0
- **Coursework:** Urban Spatiotemporal Analysis and Geographic Computing; Advanced Theories and Methods of Smart Cities; Big Data, Machine Learning and Planning Design

Sun Yat-sen University

Sept 2018 – Jun 2022

BS in Traffic Engineering, School of Intelligent System Engineer

- GPA: 4.0/4.0 (Ranked 1/70)
- National Scholarship in 2020, First-Class Scholarship for three consecutive years
- **Coursework:** Probability and Statistics, Transport Economics, Machine Learning, Traffic Big Data Technology and Analysis

Research & Publications

Traffic congestion & Longitudinal data analysis

- Liu, C., **Huang, N.**, Zhang, W.* Comparing structural policies for relieving citywide traffic congestion: Longitudinal evidence from 96 Chinese cities. *Transportation*. 8.2024 [Accepted](#).

Travel behavior & Causal inference

- **Huang, N.**, Lu, D., Zhang, W.*, Zou, Y. Built environment changes and adjustment process of walking behavior: Causal inference analysis based on behavioral big data of relocated residents. *Transportation Research Part A: Policy and Practice*. [Under review](#).
- **Huang, N.**, Cai, Y., Zhang, W.*, Improved robust interrupted time series model: Detecting nighttime mobility changepoints in Shenzhen residents. [In process](#).

Collective intelligence & Explainable AI

- **Huang, N.**†, Wang, Y.†, Zhang, W.*, et al. Conformity in human mobility: COVID-19 enhancing the conformity effect. *Nature Human Behavior*. [Submitted](#).

Large language model & GeoAI

- Zhu H, Zhang W, **Huang, N.**, et al. PlanGPT: Enhancing urban planning with tailored language model and efficient retrieval[J]. arXiv preprint [arXiv:2402.19273](#) [🔗](#), 2024.
- **Huang, N.**, Li, B., Deng, Z., Zhang W. GeoRAG: Geographic retrieval-augmented generation for advanced LLMs. [In process](#).

Mobility big data mining

- **Huang, N.**, Wu Y. Unveiling activity-travel patterns through topological data analysis[J]. arXiv preprint [arXiv:2406.16742](#) [🔗](#), 2024.

Projects

National Natural Science Foundation of China General Project

Jan 2022 - Dec 2025

- Tracking processes and causalities of the interaction between urban space and human behaviors by spatiotemporal behavioral trajectory big data.

Shenzhen Natural Science Foundation Basic Research General Project

Jan 2020 - Dec 2022

- Evaluation and Simulation Technology of Shenzhen Traffic Congestion Management Policies Supported by Big Data.

Integrating Large Language Model Technology with Data and Knowledge to Support Planning Practices

May 2023 - Present

- Involved in the development of PlanGPT, the first large language model in urban planning in China, which has established cooperation with multiple government departments and authorities.

AskNearby: Bridging Small Neighborhoods with Large Language Model Mar 2024 - Sept 2024

- Developed and launched an app that combines a large language model with spatial cognition and a spatio-temporal social platform, accumulating over a thousand users.

National College Student Innovation Training Program Project (Undergraduate) Jun 2020 - Jun 2021

- Path Planning and Control of Four-Wheel Steering Unmanned Vehicle (Project leader).

Work Experience

Guangzhou Transportation Informatization Construction Investment Technology Co., Ltd. (State-owned Enterprise) Jun 2021 - Aug 2021

- Participated in the road target detection algorithms and intelligent sanitation systems, responsible for data collection and analysis.

2way Technology Studio (Self-founded) 2024

- Designed algorithms and technical framework that combines GeoAI with large language models; developed and operated AskNearby, which has now received support from Baidu (a leading Chinese Internet company).

Skills

Programming: Python, Matlab, C++, Hive SQL, JavaScript, HTML, CSS

Office: Microsoft Office Specialist Master

Languages: English (IELTS 7.0) , Mandarin & Cantonese (native)