Ganmin Yin

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Room 109, Remote Sensing Building, Peking University, Beijing, China

EDUCATION

Peking University 2020.09 – 2025.06 (Expected)

- Ph.D. Candidate in *Geographical Information Science*
- GPA 3.60 / 4.00 · Top 30%
- Supervisor: Prof. Zhou Huang & Prof. Yu Liu

Peking University 2016.09 – 2020.06

- B.S. in *Geographical Information Science*
- GPA 3.53 / 4.00 · Top 30%
- Supervisor: Prof. Zhou Huang

EXPERIENCE

Research Assistant 2018.10 – present

Spatio-Temporal Social Sensing Lab (S^3-Lab), Peking University

- Focus on spatial-temporal data analysis and modeling
- Explore the human-environment relationship with geospatial big data
- Leverage deep learning techniques to examine issues including transportation and urbanization

Visiting Student 2017.09 – 2017.10

UC Berkeley, Davis & Santa Barbara

- Course study and field practice
- Apply remote sensing imagery to analyze drought in northern China

RESEARCH INTERESTS

- Transportation & Travel Behaviour Analysis
- Urban Development & Urban Metabolism
- Remote Sensing & Social Sensing
- Geospatial Artificial Intelligence & Its Applications
- Sustainable Development Goals (SDGs)

PUBLICATIONS

**Corresponding author, #Equal contribution*

1. Examining active travel behavior through explainable machine learning: Insights from Beijing, China

Ganmin Yin, Zhou Huang*, Chen Fu, Shuliang Ren, Yi Bao, Xiaolei Ma
10.1016/j.trd.2023.104038 *Transportation Research Part D: Transport and Environment* (IF=7.6)

2. How to quantify the travel ratio of urban public transport at a high spatial resolution? A novel computational framework with geospatial big data

Ganmin Yin, Zhou Huang*, Liu Yang, Eran Ben-Elia, Liyan Xu, Bronte Scheuer, Yu Liu
10.1016/j.jag.2023.103245 *International Journal of Applied Earth Observation and Geoinformation* (IF=7.5)

3. ConvGCN-RF: A hybrid learning model for commuting flow prediction considering geographical semantics and neighborhood effects

Ganmin Yin, Zhou Huang*, Yi Bao, Han Wang, Linna Li, Xiaolei Ma, Yi Zhang
10.1007/s10707-022-00467-0 *GeoInformatica* (IF=2.0)

4. Quantifying the environmental characteristics influencing the attractiveness of commercial agglomerations with big geo-data

Zhou Huang, **Ganmin Yin**, Xia Peng*, Xiao Zhou, Quanhua Dong
10.1177/23998083231158370 *Environment and Planning B: Urban Analytics and City Science* (IF=3.5)

5. PATRIC: A high performance parallel urban transport simulation framework based on traffic clustering

Lin Wan, **Ganmin Yin**, Jiahao Wang, Golan Ben-Dor, Aleksey Ogulenko, Zhou Huang*
10.1016/j.simpat.2023.102775 *Simulation Modelling Practice and Theory* (IF=4.2)

6. High-resolution mapping of material stocks in the built environment across 50 Chinese cities

Yi Bao, Zhou Huang*, Ruichang Mao, Gang Liu, Han Wang, **Ganmin Yin**
10.1016/j.resconrec.2023.107232 *Resources, Conservation and Recycling* (IF=13.2)

7. Big geodata reveals spatial patterns of built environment stocks across and within cities in China

Zhou Huang*#, Yi Bao#, Ruichang Mao#, Han Wang, **Ganmin Yin**, Lin Wan, Houji Qi, Qiaoxuan Li, Hongzhao Tang, Qiance Liu, Linna Li, Bailang Yu, Qinghua Guo, Yu Liu, Huadong Guo*, Gang Liu*
10.1016/j.eng.2023.05.015 *Engineering* (IF=12.8)

8. The spatially varying effects of built environment characteristics on the integrated usage of dockless bike-sharing and public transport

Xiao Zhou, Quanhua Dong, Zhou Huang*, **Ganmin Yin**, Guoqing Zhou, Yu Liu
10.1016/j.scs.2022.104348 *Sustainable Cities and Society* (IF=11.7)

9. Matching end-of-life household vehicle generation and recycling capacity in Chinese cities: A spatio-temporal analysis for 2022–2050

Shuliang Ren, Zhou Huang*, Yi Bao, **Ganmin Yin**, Jingfan Yang, Xv Shan
10.1016/j.scitotenv.2023.165498 *Science of The Total Environment* (IF=9.8)

10. DouFu: A double fusion joint learning method for driving trajectory representation

Han Wang, Zhou Huang*, Xiao Zhou, **Ganmin Yin**, Yi Bao
10.1016/j.knosys.2022.110035 *Knowledge-Based Systems* (IF=8.8)

11. Applying Ollivier-Ricci curvature to indicate the mismatch of travel demand and supply in urban transit network

Yaoli Wang, Zhou Huang*, **Ganmin Yin**, Haifeng Li, Liu Yang, Yuelong Su, Yu Liu, Xv Shan
10.1016/j.jag.2021.102666 *International Journal of Applied Earth Observation and Geoinformation* (IF=7.5)

12. High-resolution quantification of building stock using multi-source remote sensing imagery and deep learning

Yi Bao, Zhou Huang*, Han Wang, **Ganmin Yin**, Xiao Zhou, Yong Gao
10.1111/jiec.13356 *Journal of Industrial Ecology* (IF=5.9)

13. Optimizing segmented trajectory data storage with HBase for improved spatio-temporal query efficiency

Yi Bao, Zhou Huang*, Xuri Gong, Yuyang Zhang, **Ganmin Yin**, Han Wang
10.1080/17538947.2023.2192979 *International Journal of Digital Earth* (IF=5.1)

14. A unified spatial multigraph analysis for public transport performance

Yaoli Wang, Di Zhu, **Ganmin Yin**, Zhou Huang*, Yu Liu
10.1038/s41598-020-65175-x *Scientific Reports* (IF=4.6)

15. Site selection for hybrid offshore wind and wave power plants using a four-stage framework: A case study in Hainan, China

Xiao Zhou, Zhou Huang*, Han Wang, **Ganmin Yin**, Yi Bao, Quanhua Dong, Yu Liu
10.1016/j.ocecoaman.2022.106035 *Ocean & Coastal Management* (IF=4.6)

PRESENTATIONS & TALKS

1. Exploring the influencing factors of urban commercial agglomeration attractiveness based on mobile signaling big data

Ganmin Yin · Oral
The 18th China Annual Conference on GIS Theory and Method · May, 2023 · Guilin · China

2. Understanding public transport supply and demand from the perspective of public transport travel ratio in a fine spatial scale

Ganmin Yin · Oral
The 29th International Conference on Geoinformatics (CPGIS 2021) · Nov, 2021 · Nanchang · China

PROJECTS

Multi-source Trajectory Big Data Computing Methods and Applications for Traffic Infrastructure Optimization 2023.01 – 2026.12

Research Assistant · National Natural Science Foundation of China (No. 42271471)

- Examine human travel behaviour using multisource trajectory big data
- Apply big data analytics and machine learning algorithms for transportation optimization

Mobility as a Service: From Rigid to Smart Evolving Public Transport 2019.08 – 2021.07

Research Assistant · National Key Research and Development Program of China (No. 2017YFE0196100)

- Analyze the supply and demand of urban public transportation with geospatial big data
- Responsible for project management, communication, and closure

HONORS & AWARDS

Rising Star Award, College GIS Forum (CGF) of China (*Ranked 1st nationwide*) 2023
Presidential Scholarship, Peking University (*Top 5%, ¥82,000*) 2023
Industrial Bank Scholarship, Peking University (*¥5,000*) 2023
Academic Excellence Award, Peking University (*Top 20%*) 2023
Presidential Scholarship, Peking University (*Top 5%, ¥82,000*) 2022
Merit Student, Peking University (*Top 20%*) 2022
LongRuan Scholarship, Beijing LongRuan Technology Co. Ltd. (*¥5,000*) 2020
Study Excellence Award, Peking University (*Top 20%*) 2017

SERVICES

Peer Reviewer

Computers, Environment and Urban Systems 2024
Cities 2024
International Journal of Applied Earth Observation and Geoinformation 2024
Urban Climate 2023
Transactions in GIS 2021

Session Chair

The 2021 International Graduate Workshop on GeoInformatics (IGWG 2021) 2021