Ganmin Yin

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

EDUCATION

Peking University 2020.09 – 2025.06 (Expected)

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

Peking University 2016.09 – 2020.06

- <u>B.S.</u> 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 Spatial Structures & Development Patterns
- 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)

- Explore human travel behaviour using multisource trajectory big data
- Apply big data analytics and machine learning algorithms to geographic modeling and urban planning

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

SELECTED 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

Urban Climate 2023
Transactions in GIS 2021

Session Chair

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