

Jian LIU (刘坚)

Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University

Address: 181 Chatham Road South, Hung Hom, Kowloon, Hong Kong

Email: jian24.liu@connect.polyu.hk / felix.jianliu@gmail.com

Website: <https://jianliu-24.github.io>

EDUCATION

- | | |
|-------------------------|--|
| May. 2024 – present | PhD in Urban Informatics and Smart City
<i>Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University (Hong Kong) (Supervisor: Dr. Xintao Liu)</i> |
| Sept. 2019 – June. 2022 | Master of Human Geography
<i>College of Resource Environment and Tourism, Capital Normal University (Beijing, China) (Supervisor: Prof. Bin Meng)</i> |
| Sept. 2015 – June. 2019 | Bachelor of Human Geography and Urban Planning
<i>College of Geography and Environmental Science, Northwest Normal University (Lanzhou, China)</i> |

RESEARCH INTERESTS

- Human mobility (travel behaviors & activity space)
- Urban informatics (big data analytics & applications)
- Accessible & inclusive cities
- Goal: exploring human mobility and dynamics for liveable and inclusive cities

PUBLICATIONS

1. **Liu, J.**, Shen, K., Liu, X., & Wu, C. (2025). Unravelling the multiple effects of multilevel neighborhood characteristics on traffic crash risk from a spatiotemporal heterogeneity perspective. *Travel Behaviour and Society*, 40, 101044. (SSCI Q1)
2. Zhan, D., Wang, Y., Wang, D., Zhang, W., & **Liu, J***. (2025). The nonlinear effects of the subjective and objective built environment on active travel behavior: A case study of Shanghai, China. *Health & Place*, 95, 103528. (SSCI Q1)
3. Shen, K., **Liu, J.**, & Liu, X. (2025). Understanding the Impact of Street Environments on Traffic Crash Risk from the Perspective of Aging People: An Interpretable Machine Learning Approach. *ISPRS International Journal of Geo-Information*, 14(7), 248. (SCI Q2)
4. Wang, H., Lai, Z., Wang, S., **Liu, J.**, & Liu, X. (2025). Charting the progress and future directions of disability studies in human geography: A comprehensive systematic review dating back to 1980s. *Cities*, 161, 105910. (SSCI Q1)
5. **Liu, J.**, Lai, Z., Meng, B., Guo, Z., & Liu, X. (2024). Assessing spatial configuration of barrier-free facilities from the perspective of age-friendliness: A case Study of Beijing, China. *Applied Geography*,

- 172, 103426. (SSCI Q1)
6. **Liu, J.,** Meng, B., & Shi, C. (2023). A multi-activity view of intra-urban travel networks: a case study of Beijing. *Cities*, 143, 104634. (SSCI Q1)
 7. **Liu, J.,** Meng, B., Yang, M., Peng, X., Zhan, D., & Zhi, G. (2022). Quantifying spatial disparities and influencing factors of home, work, and activity space separation in Beijing. *Habitat International*, 126, 102621. (SSCI Q1)
 8. Liu, H., **Liu, J.,*** Li, M., Gou, P., & Cheng, Y. (2022). Assessing the evolution of PM2. 5 and related health impacts resulting from air quality policies in China. *Environmental Impact Assessment Review*, 93, 106727. (Corresponding author) (SSCI Q1, **2023 ESI Highly Cited Paper**)
 9. Guo, Z., **Liu, J.,** Zhao, P., Liu, X., & Li, A. (2023). Spatiotemporal heterogeneity of the shared e-scooter–public transport relationships in Stockholm and Helsinki. *Transportation Research Part D: Transport and Environment*, 122, 103880. (SCI & SSCI Q1)
 10. **Liu, J.,** Meng, B., Xu, J., Li, R. (2023). Exploring public transportation supply–demand structure of Beijing from the perspective of spatial interaction network. *ISPRS International Journal of Geo-Information*, 12(6), 213. (SCI Q2)
 11. **Liu, J.,** Meng, B., Wang, J., Chen, S., Tian, B., & Zhi, G. (2021). Exploring the spatiotemporal patterns of residents' daily activities using text-based social media data: a case study of Beijing, China. *ISPRS International Journal of Geo-Information*, 10(6), 389. (SCI Q2)
 12. **Liu, J.,** Meng, B., Chen, S., Chen, Z., & Zhan, D. (2021). Study on the relationship between dining activities of beijing residents and urban space based on multi-sources big data. *Human Geography*, 36(2), 63-72+183. (in Chinese) (CSSCI)
 13. Zhan, D., Zhang, Q., Kwan, M. P., Liu, J., Zhan, B., & Zhang, W. (2022). Impact of urban green space on self-rated health: Evidence from Beijing. *Frontiers in Public Health*, 10, 999970. (SSCI Q1)
 14. Chen, S., Meng, B., Liu, N., Qi, Z., **Liu, J.,** & Wang, J. (2022). Cultural perception of the historical and cultural blocks of Beijing based on Weibo photos. *Land*, 11(4), 495. (SSCI Q2)
 15. Wang, B., Meng, B., Wang, J., Chen, S., & **Liu, J.** (2021). Perceiving residents' festival activities based on social media data: a case study in Beijing, China. *ISPRS International Journal of Geo-Information*, 10(7), 474. (SCI Q2)
 16. Tian, B., Meng, B., Wang, J., Zhi, G., Qi, Z., Chen, S., & **Liu, J.** (2022). Spatio-temporal patterns of fitness behavior in Beijing based on social media data. *Sustainability*, 14(7), 4106. (SCI & SSCI Q2)
 17. Zhi, G., Meng, B., Wang, J., Chen, S., Tian, B., Ji, H., ... & **Liu, J.** (2021). Spatial analysis of urban residential sensitivity to heatwave events: case studies in five megacities in China. *Remote Sensing*, 13(20), 4086. (SCI Q1)
 18. Zhu, Y., Wang, J., Meng, B., Ji, H., Wang, S., Zhi, G., **Liu, J.,** & Shi, C. (2022). Quantifying spatiotemporal heterogeneities in air pollution-related health and associated determinants using geospatial big data: a case study in Beijing. *Remote Sensing*, 14(16), 4012. (SCI Q1)
 19. Liu, H., & **Liu, J.** Dataset of premature deaths avoided due to PM2.5 pollution control policies in Chinese cities (2019) [DS/OL]. Science Data Bank, 2023[2023-01-13]. <https://doi.org/10.57760/sciencedb.07110>. DOI:10.57760/sciencedb.07110.

RESEARCH PROJECTS

- 05/2024 – present **An AI-driven Geospatial Platform for Smart Facility Management and Smart Mobility of People with Disabilities (PwDs)** (*Research Impact Fund, RGC Ref no. R5011-23*)
Contribution: Writing proposal, Data collection and processing.
- 11/2022 – 04/2024 **Towards a digital-twin system for smart mobility for people with disabilities (PwDs) using multi-data sensing and big data analytics** (*Funded by Research Institute for Sustainable Urban Development (RISUD), The Hong Kong Polytechnic University*)
Contribution: Developing VGI platform, Data collection, Writing annual report.
- 09/2019 – 03/2022 **Geographic big data mining and spatiotemporal pattern discovery** (*Funded by the National Key Research and Development Program of China (Grant Nos. 2017YFB0503605)*)
Contribution: Data processing (mobile phone data, social media data, poi data), Textual data mining (NLP), Spatial statistical analysis (ArcGIS Pro, python), Writing papers.
- 09/2019 – 06/2022 **Jobs-housing separation patterns, measuring, early warning and planning response in the context of functional reorganization** (*Funded by National Natural Science Foundation of China Project (Grant Nos. 51878052)*)
Contribution: Data collection and processing (questionnaire survey, mobile phone data), Spatial statistical analysis and visualization (ArcGIS Pro, Python), Writing papers.
- 09/2019 - 12/2020 **Measuring the spatial matching patterns of urban elements** (*Funded by National Natural Science Foundation of China Project (Grant Nos. 41671165)*)
Contribution: Data processing (questionnaire survey data, mobile phone data, social media data), Textual data mining (NLP), Spatial statistical analysis and visualization (ArcGIS Pro, Python, R), Writing papers.

CONFERENCES

Presentations

1. “Assessing spatial disparities of barrier-free environment conditions in metropolitan areas: A case study of Beijing”, *The 13th Symposium on Spatially Integrated Humanities and Social Sciences*, Beijing, China. October 27-30, 2023.
2. “A multi-activity view of intra-urban travel networks: a case study of Beijing”, *Global Smart Cities Summit Cum The 3rd International Conference on Urban Informatics*, Hong Kong. August 20-23, 2023.
3. “Mining the residents’ daily activity patterns of Beijing from the perspective of behavioral sensing”,

2021 China Behavioral Geography Annual Conference and the 17th Conference on Spatiotemporal Behavior and Planning, Wuhan, China. November 20-21, 2021.

4. “Quantifying the characteristics and influencing factors of spatial separation of "Living-Working-Activity" in Beijing,” *The 11th Forum on Spatially Integrated Humanities and Social Science*, Hangzhou, China. July 7-10, 2021.
5. “Revealing the activity diversity of Beijing residents and its influencing factors”, *The 16th Conference on Spatiotemporal Behavior and Planning*. Xiamen, China. December 12, 2020.
6. “Exploring the relationship between residents' daily activities and urban spatial structure based on social media data”, *The Symposium of Research Frontiers on Urban Space and Resident Behavior in Beijing*, Beijing, China. December 25, 2019.
7. “Exploring the relationship between dining activities of Beijing residents and urban space based on multi-sources big data”, *The 15th Conference on Spatiotemporal Behavior and Planning*. Shenzhen, China. December 13-15, 2019.

SKILLS

Software:

Spatial Analysis: ArcGIS, QGIS, GeoDa, CrimeStat, SatScan, Geodetector.

Statistical Analysis: Gephi, Tableau, SPSS, Origin.

Others: Adobe Photoshop, Illustrator, Indesign & Premiere, AutoCAD, SketchUp.

English level: IELTS 6.5

Programming: Python, R.

Other Skills: Fieldwork, Questionnaire Survey, machine learning, deep learning.

AWARDS

Outstanding Postgraduates Awards in Beijing. (2022)

Presidential Scholarship of Capital Normal University. (2022)

National scholarship for Postgraduates. (2021)

Individual Scholarship for Postgraduate of Capital Normal University. (2021)

Second-class Scholarship for Postgraduate of Capital Normal University. (2021)

National Encouragement Scholarship. (2017-2018)

SERVICE

JOURNAL REVIEWS

1. Applied Geography
2. Environmental Impact Assessment Review
3. Environment, Development and Sustainability
4. Environmental Science & Technology
5. Geo-spatial Information Science
6. Health & Place
7. ISPRS International Journal of Geo-Information
8. International Journal of Applied Earth Observation and Geoinformation
9. Journal of Transport Geography

10. Journal of Urban Technology
11. Transport Policy
12. Travel Behaviour and Society

TEACHING EXPERIENCES

The Hong Kong Polytechnic University

Spring 2023	LSGI545	Urban Informatics	Dr. Anshu Zhang	TA
Fall 2023	LSGI653	Smart City and Urban Informatics	Dr. Xintao Liu	TA
Spring 2025	LSGI547	Advanced GIS	Dr. Tiangang Yin	TA