

CURRICULUM VITAE

Qi-Li Gao [高琦丽]

Research Fellow in Urban Mobility and Social Inequality

The Bartlett Center for Advanced Spatial Analysis (CASA)
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EDUCATION

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|-------------------|--|
| Ph.D. | Cartography and Geographic Information Science, Wuhan University |
| (09/2015-12/2019) | Dissertation: <i>Big Data-Driven Analysis on Urban Activity Space Dynamics</i> |
| M.S. | Surveying and Mapping Engineering, Wuhan University, Wuhan |
| (09/2013-06/2015) | Dissertation: <i>Cabdrivers' Behavior Patterns Analysis from the Trajectory Data</i> |
| B.S. | Geographic Information System, Wuhan University, Wuhan |
| (09/2009-06/2013) | Dissertation: <i>Risk Assessment for Drought Disaster Based on Graphic Modeling</i> |

RESEARCH INTERESTS

- Human Dynamics and Urban Informatics
- Spatiotemporal Data Mining and Social Computing
- Human Mobility and Social Inequality
- Data-driven Urban Analytics

PROFESSIONAL POSITIONS

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| 02/2022-present | Research Fellow, University College London |
| 03/2021-11/2021 | Research Assistant, The Hong Kong Polytechnic University, Hong Kong |
| 01/2020-01/2022 | Postdoctoral fellow, Shenzhen University, Shenzhen, Guangdong, China |

RESEARCH PROJECTS

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| 2021-2023 | National Natural Science Foundation of China (NSFC), “ <i>Method of Measuring Urban Inequality Based on Multi-dimensional Activity Space Features</i> (基于多维活动空间特征的城市不平等性测度方法研究)”. (PI, RMB 240,000) <ul style="list-style-type: none">● Inferring individual activity space features from big data.● Measuring disparities in activity patterns among different social groups based on inferred activity space features.● Modeling the associations between urban spatial structure and activity disparities. |
| 2021-2022 | Postdoctoral Science Foundation of China (NSFC), “ <i>Identifying the boundaries</i> |

- and spatial structure of metropolitan areas using multi-source big data* (大数据解析都市圈范围及其空间结构)”. (PI, RMB 80,000)
- Inferring individual activity features from multi-source spatio-temporal data.
 - Identifying the boundaries of metropolitan areas based on multi-dimensional indicators.
 - Revealing the spatial structure of metropolitan areas from the dual perspective of "function-network".
- 2019-2022 National Natural Science Foundation of China-Joint Programming Initiative Urban Europe (NSFC-JPI_UE), “*SIMETRI: Sustainable Mobility and Equality in Megacity Regions-Patterns, Mechanisms and Governance* (超大城市区域的可持续交通与均等化：模式、机理与治理)”. (Researcher)
- Developing a data analysis and simulation platform.
 - Studying socio-spatial segregation using big data.
 - Investigating the influencing factors of socio-spatial inequality.
- 2017-2020 National Natural Science Foundation of China (NSFC), “*Data-driven Research on Spatial Selection Behavior Mechanism* (大数据驱动的空间选择行为机制研究)”. (Researcher)
- Exploring individual travel trajectory and attribute characteristics from various big data, including public transit smart card data, private vehicle plate recognition data.
 - Estimating individual and group characteristics and differences based on data-driven approach.

PUBLICATIONS

- Gao, Q.-L.**, Yue, Y*, Tu, W., Cao, J., Li, Q.-Q. Segregation or integration? Exploring activity disparities between migrants and settled urban residents. *Transactions in GIS*, 2021, 25(6), 2791-2820.
- Gao, Q.-L.***. Big data-driven analysis on urban activity space dynamics. *Acta Geodaetica et Cartographica Sinica* (测绘学报), 2020, 50(6), 850.
- Gao, Q.-L.**, Li, Q.-Q*, Zhuang, Y., Yue, Y., Liu, Z.-Z., Li, S.-Q., Sui, D. Urban commuting dynamics in response to public transit upgrades: A big data approach. *PloS one*, 2019, 14(10), e0223650.
- Gao, Q.-L.**, Li, Q.-Q*, Yue, Y., Zhuang, Y., Chen, Z.-P., Kong, H. (2018). Exploring changes in the spatial distribution of the low-to-moderate income group using transit smart card data. *Computers, Environment and Urban Systems*, 2018, 72, 68-77.
- Cao, J., Li, Q., Tu, W*, **Gao, Q.**, Cao, R., & Zhong, C. Resolving urban mobility networks from individual travel graphs using massive-scale mobile phone tracking data. *Cities*, 2020, 110, 103077.
- Tu, W*, Cao, J., **Gao, Q.**, Cao, R., Fang, Z., Yue, Yang., Li, Q. Sensing urban dynamics by fusing multi-source spatio-temporal big data. *Geomatics and Information Science of Wuhan University* (武汉大学学报·信息科学版), 2020, 45(12), 1875.
- Yeh, A.G., Yue, Y., Zhou, X., **Gao, Q. L.** Big data, urban analytics and the planning of smart cities, 2020. In Handbook of Planning Support Science. Edward Elgar Publishing.
- Liu, C. K., Jia, T., **Gao, Q. L.**, Wang, Y. L., Qin, K., Tao, H. B. (2016). Study on location and allocation of healthcare center based on improved genetic algorithm. *Computer Engineering and*

Applications, 52(6), 13-18.

Jia, T., Tao, H., Qin, K., Wang, Y., Liu, C., **Gao, Q.** Selecting the optimal healthcare centers with a modified p-median model: a visual analytic perspective. *International Journal of Health Geographics*. 2014 13(1), 42.

INVITED AND CONFERENCE TALKS

- 2021 **Gao, Q.-L.**, Zhong, C. Yue, Y. Activity inequality by income status?. The 2021 European Colloquium on Theoretical and Quantitative Geography, 2021. Online. Oral presentation.
- Gao, Q.-L.** Understanding socio-spatial inequality using human mobility data. The Smart Cities Research Institute (SCRI) salon, 2021. Hong Kong, China. Invited talk.
- 2020 **Gao, Q.-L.**, Yue, Y. Li, Q.-Q. Revealing activity disparity between different social groups by travel mode. The 16th Workshop on Spatial Behavior and Planning, 2020. Xiamen, China. Oral presentation.
- 2019 **Gao, Q.-L.**, Yue, Y. Li, Q.-Q. Exploring the spatial segregation of new migrants based on activity space: A big data approach. The 27th International Conference on Geoinformatics, 2019. Sydney Australia. Oral presentation.
- Gao, Q.-L.**, Yue, Y. Li, Q.-Q. Understanding socio-spatial segregation from activity space: A big data approach. The 13th IACP conference, 2019. Chengdu, China. Oral presentation.
- Gao, Q.-L.**, Yue, Y. Li, Q.-Q. Urban commuting dynamics in response to public transit upgrades: A big data approach. The 16th Interactional Conference on Computers in Urban Planning and Urban Management, 2019. Wuhan, China. Poster.
- 2017 **Gao, Q.-L.**, Yue, Y. Li, Q.-Q. Identifying intra-city residential spatial distribution changes using transit smart card data, The 25th International Conference on Geoinformatics, 2017. Buffalo, U.S. Oral presentation.

PROFESSIONAL SKILLS

- Strong skills in spatiotemporal data analytics, geospatial analytics, modeling and visualization, statistics
- Domain knowledge in GIS, urban planning, transportation studies, urban theories, and economics
- Proficient in programming languages such as Python, Matlab
- Expert in ArcGIS, GeoDa, QGIS, SPSS.

REFEREES

- Prof. Qing-Quan Li (PhD supervisor and postdoctoral co-supervisor)
President of Shenzhen University
Email: liqq@szu.edu.cn
- Prof. Yang Yue (PhD co-supervisor)
Shenzhen University
Email: yueyang@szu.edu.cn

- Prof. Chen Zhong (team member)
University College London
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