

**Jack JIAO**

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**Education**

PhD (Architecture), University of Washington, 2010

Master, University of Washington, 2009

Master, University of Twente, 2004

**Academic Appointments**

Professor of Urban Informatics, CIS

Member, Urban Institute, SMU

**Academic Journal Editorial Board Service**

- Journal of Urban Planning and Development (Associate Editor)
- Journal of Big Data Analytics in Transportation (Editorial Board)
- Journal of Transport and Land Use (Editorial Board)
- Journal of Urban Technology (Editorial Board)
- Transportation Research Part D (Editorial Board)
- Nature Scientific Report (Editorial Board)
- PLOS One (Editorial Board)

**Awards and Honors**

- 1) Fulbright Scholar on Smart City, 2023, 2025
- 2) Stanford - Elsevier World Top 2% Scientist 2021, 2022, 2023, 2024
- 3) US Smart Cities Connect 2022 Smart 50 Awards, 2022
- 4) Brent Iverson Award for Teaching Innovation, 2023

## Professional Memberships

1. American Collegiate Schools of Planning
2. Transportation Research Board
3. Chinese Overseas Transportation Association
4. International Association for China Planning Conference

## RESEARCH

Professor Jiao's research focuses on urban informatics, AI and Smart City. He uses different information technologies to quantify urban infrastructures and their influences on people's behaviours. He has investigated and quantified the spatial-temporal patterns of various shared mobility activities (Uber, Scooter, and Bike Sharing) in many US cities. He has authored over 100 peer-reviewed articles in leading Urban Science and Transportation journals such as *Nature Human Behaviour*, *Journal of Planning and Education Research* (JPER), the *Journal of American Planning Association* (JAPA), *Environment and Planning A and B*, the *Journal of Transport Geography*, *Transportation Research Part D*, *Cities*, and *Computers, and Environment and Urban Systems*. These findings have been reported by many media outlets such as CNN, Fox, NBC, NPR, New York Times and others. He has been recognized as a top 2% Stanford Elsevier scientist in the field of transportation and logistics since 2021.

## Research Interests

Urban Informatics,  
Smart City,  
AI and Ethical AI

## Publications

### Journal Articles [Refereed]

- 1) Jiao, J., Afroogh, S., Chen, K., Atkinson, D., Dhurandhar, A., (2025). The global landscape of academic guidelines for generative AI and Large Language Models, *Nature Human Behavior*.
- 2) Wang, J., Li, Y., Jiao, J., (2025), Analysis of Access and Egress Mode Choice to High-Speed Railway Stations, *Area Development and Policy* (RARD).
- 3) Sammer, M., Seong, K., Olvera, N., Gronseth, S., Anderson-Fletcher, E., Jiao, J., Reese, A., Kakadiaris, I., (2024) AI-FEED: Prototyping an AI-Powered Platform for the Food Charity Ecosystem. *International Journal of Computational Intelligence Systems*.
- 4) Phillips, C., Jiao, J., Clubb, E., (2024), Testing the Capability of AI Art Generation Tools for Urban Design: A Comparative Study. *IEEE Computer Graphics and Applications*.
- 5) Lewis, R., Jiao, J., Seong, K., Farahi, A., Navrátil, P., Casebeer, N. and Niyogi, D., (2024). Fire and smoke digital twin—A computational framework for modeling fire incident outcomes. *Computers, Environment and Urban Systems*, 110, p.102093.
- 6) Seong, K., Jiao, J., (2024) Is a Smart City Framework the Key to Disaster Resilience? A Systematic Review". *Journal of Planning Literature*.
- 7) Mandalapu, A., Seong, K., Jiao, J., (2024). Evaluating urban fire vulnerability and accessibility to fire stations and hospitals in Austin, Texas. *PLOS Climate*.
- 8) Seong, K., Jiao, J., Mandalapu, A., Niyogi, D., (2024). Spatio-temporal patterns of heat index and heat-related Emergency Medical Services (EMS). *Sustainable Cities and Society*.
- 9) Seong, K., Choi, S., Jiao, J., (2024). IoT Sensors as a Tool for Assessing Spatiotemporal Risk to Extreme Heat. *Journal of Environmental Planning and Management*.
- 10) Jiao, J., Xu, Y., Li, Y., (2024). Exploring Spatial Heterogeneity of E-scooter's Relationship with Ride sourcing using Explainable Machine Learning. *Transportation Research Part D*.
- 11) Jiao, J., Xu, Y., (2024). Analyzing Shared E-Scooter Trip: Frequency on Urban Road Segments in Austin, TX. *Case Studies on Transport Policy*.
- 12) Choi, S., Jiao, J., (2024). Uncovering electric vehicle ownership disparities using K-means clustering analysis: A case study of Austin, Texas. *Journal of Computational Social Science*.

- 13) Azimian, A., Jiao, J. (2023). Durations of Dockless E-Scooter Trips Before and During the COVID-19 Pandemic in Austin, TX: An Analysis Using Hazard-Based Duration Models. *Transportation Research Record: Journal of Transportation Research Board*.
- 14) Jiao, J., Wu, X., Chen, Y., Farahi, A., (2023) How the Single-Family Residence Housing Market Capitalizes Green Property Upgraded Features: Evidence from City of Austin? *International Journal of Housing Markets and Analysis*.
- 15) Chen, Y., Jiao, J., Farahi, A., (2023). Disparities in affecting factors of housing price: A machine learning approach to the effects of housing status, public transit, and density factors on single-family housing price. *Cities*.
- 16) Jiao, J., Choi, S., Wang, H., Farahi, A., (2023). Evaluating Air Quality Status in Chicago: Application of Street View Imagery and Urban Climate Sensors. *Environmental Modeling & Assessment*.
- 17) Jiao, J., Mira, B., Azimian, A., Farahi, A., (2022). Housing Market Price Movements Under Tech Industry Expansion During COVID-19, *International Journal of Housing Markets and Analysis*.
- 18) Pan, H., Greetman, S., Deal, B., Jiao, J., Wang, B. (2022). Planning Support for Smart Cities in the Post-COVID Era, *Journal of Urban Technology*. 29 (2), 1-5.
- 19) Jiao, J., Azimian, A., Degen, N., (2022). Identifying Hospital Deserts in Texas Before and During the COVID-19 Outbreak, *Transportation Research Record: Journal of Transportation Research Board*.
- 20) Mandalapu, A.; Jiao, J., Azimian, A., (2022) "Exploring the Spatial Distribution of Air Pollutants and COVID-19 Death Rate: A Case Study for Los Angeles County, California," *International Journal of Geospatial and Environmental Research*: Vol. 9: No. 1, Article 4.

#### Book Chapters

- 1) Jiao, J., Radil, S., Harbin, J., & Li, Y. (2015). A People's Atlas of Muncie: Citizen Representations of Urban Space. In Chen et al. (eds.), *Building Resilient Cities in China; The Nexus between Planning and Science* (pp 109-117). New York, NY: Springer.
- 2) Li, Y., He, L., Jiao, J., & Shen, G. (2015). A Quantitative Study of Housing Price based on a Huff Model and Hedonic Method. In Chen et al. (eds.), *Building Resilient Cities in China; The Nexus between Planning and Science* (pp 207-221). New York, NY: Springer.
- 3) Jiao, J., Phelps, T., & Li, Y. (2015). Storm Preparedness: A Case Study of Delaware County, Indiana. In Chen et al. (eds.), *Building Resilient Cities in China; The Nexus between Planning and Science* (pp 235-243). NY: Springer.
- 4) Jiao, J., Moudon, A.V., & Li, Y. (2013). Locations with Frequent Pedestrian-Vehicle Collisions: Their Transportation and Neighborhood Environment Characteristics in Seattle and King County, Washington. In Geertman et al. (eds.), *Planning Support Systems for Sustainable Urban Development* (Volume 195, pp 281-296). New York, NY: Springer.
- 5) Jiao, J., & Boerboom, L. (2006). Transition Rule Elicitation Methods for Urban Cellular Automata Models. Leeuwen, J. and Timmermans, H. (eds), *Innovations in Design & Decision Support Systems in Architecture and Urban Planning* (pp. 53-68). New York, NY: Springer.

#### Conference Proceedings

- 1) Wang, T., Guo, Q., He, C., Li, H., Xu, Y., Wang, Y., Jiao, J., (2025), Impact of Connected and Automated Vehicles on Longitudinal and Lateral Performance of Heterogeneous Traffic Flow in Shared Autonomy on Two-Lane Highways. *2025 SAE Conference*.
- 2) Philips, C., Jiao, J., (2023), Artificial Intelligence & Smart City Ethics: A Systematic Review. 2023 IEEE International Symposium on Ethics in Engineering, Science, and Technology (ETHICS), 2023 *IEEE Xplore*. [10.1109/ETHICS57328.2023.10154961](https://doi.org/10.1109/ETHICS57328.2023.10154961)
- 3) Morgenstein, K., Jiao, J., Sentis, L., (2023). What Goes Bump in the Night: Learning Tactile Control for Vision-Occluded Crowd Navigation. *2023 IEEE International Conference on Robotics and Automation (ICRA)*.
- 4) Morgenstein, K., Jiao, J., Sentis, L., (2023). Learning Contact-based Navigation in Crowds, 2nd Workshop on Human-Interactive Robot Learning (HIRL 2023) at *2023 ACM/IEEE International Conference on Human-Robot Interaction (HRI)*.
- 5) Gonzalez, C., Lee, S., Montano, F., Ortega, S., Kang, D., Jaiswal, M., Jiao, J., Sentis, L., (2023). Design of a Person-Carrying Robot for Contact Compliant Navigation, *2023 ASME International Design Engineering Technical Conferences (IDETC 2023)*.
- 6) Hart, J., Hauser, E., Biswas, J., Baker, S., Jiao, J., Sentis, L., (2022). Longitudinal Social Impacts of HRI over Long-Term Deployments. *2022 ACM/IEEE International Conference on Human-Robot Interaction (HRI)*. *IEEE Xplore*. [10.1109/HRI53351.2022.9889565](https://doi.org/10.1109/HRI53351.2022.9889565)

- 7) Chonkar, P., Hemkumar, G., Wang, H., Dua, D., Gupta, S., Chan, Y., Hart, H., Hauser, E., Mirsky, R., Biswas, J., Jiao, J., and Stone, P., (2022). Look to my Lead: How Does a Leash Affect Perceptions of a Quadruped Robot? *2022 IEEE International Conference on Robotics and Automation (ICRA)*.
- 8) Jiao, J., Choi, S., Xu, W., (2021). Tracking Property Ownership Variance and Forecasting Housing Price with Machine Learning and Deep Learning. *IEEE International Conference on Big Data. IEEE Xplore. 10.1109/BigData52589.2021.9671298*
- 9) Jiao, J., Choi, S., Xu, W., (2021). Tracking Property Ownership Variance and Forecasting Housing Price with Machine Learning and Deep Learning. *IEEE International Conference on Big Data. IEEE Xplore. 10.1109/BigData52589.2021.9671298*
- 10) Jain, A., Svetlik, M., Machak, N., Sikand, K., Karamanli, C., Zhou, K., Hart, J., Biswas, J., Sentis, L., & Jiao, J. (2021). An Open-Source Framework for Last Mile Delivery with Heterogeneous Robots. *AAAI Spring Symposium 2021 Machine Learning for Mobile Robot Navigation in the Wild* 10.13140/RG.2.2.32963.94244.
- 11) Jiao, J., & Li, Y. (2012). The Influence of Built Environments on Grocery Shopper's Destination Choice: A Case Study of Seattle. *The 6th International Association for China Planning Conference (IACP) Proceedings* (pp. 29-34). 2012 *IEEE Xplore. 10.1109/IACP.2012.6342985*
- 12) Li, Y., He, L., & Jiao, J. (2012). A Spatial Analysis of Housing Prices in Chinese Coastal Cities: A Case Study of Xiamen, China. *The 6th International Association for China Planning Conference (IACP) Proceedings* (pp. 144-148). 2012 *IEEE Xplore. 10.1109/IACP.2012.6342973*

### Research Grants

- 1) USHUD: Equitable Technologies for Housing Innovation Center (Co-PI)
- 2) USDOT Tier 1 University Transportation Center for Climate Smart Transportation (Co-PI)
- 3) NSF Convergence Accelerator Track J: Artificial-Intelligence-Based Decision Support for Equitable Food and Nutrition Security in the Houston Area (Co-PI)
- 4) NSF: GCR: Community-Embedded Robotics: Understanding Sociotechnical Interactions with Long-term Autonomous Deployments (Senior Personnel).
- 5) NSF: NRT: AI: Convergent, Responsible, Ethical, Applied Training Experience for Roboticists (PI)
- 6) NSF: CIVIC Challenge Phase 2—Community Hub for Smart Mobility (PI)
- 7) NSF: CIVIC Challenge—Community Hub for Smart Mobility (PI)
- 8) Microsoft: Urban Climate Resilience and Hyperlocal Sensing (PI)
- 9) Microsoft: Project Eclipse, Portable Air pollution Sensors and AI based Pollution Prediction (PI)
- 10) USDOT-CM2: Improving Pedestrian Safety with Traffic Monitoring Camera and AI

### TEACHING

#### Teaching Areas

Urban Informatics,  
Smart City,  
AI/Ethical AI

### EXTERNAL SERVICE – PROFESSIONAL

Grant reviewer:

NSF, USA  
DOT, USA  
Ontario Research Fund, Canada  
German Academic Exchange Service (DAAD), Germany  
Research Grants Council, Hong Kong, China  
USDOT Region 10 University Transportation Research Center Grant  
C2 Smart Tier 1 University Transportation Research Center Grant