# Hanyong Xu

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Cambridge, MA 02139

### RESEARCH INTEREST

- Algorithmic fairness in urban science system
- Travel behavior and behavioral science
- On-demand services in platform economy

### EDUCATION

**2023 - present**    **Ph.D., Urban Science**      Cambridge, MA
Massachusetts Institute of Technology
- Advisor: Jinhua Zhao
- *Selected Coursework: Optimization Methods; Transportation Foundation & Methods; Demand Modeling (ongoing)*

**2019 - 2020**    **Master, Urban Spatial Analysis**      Philadelphia, PA
University of Pennsylvania
- Advisor: Ken Steif
- *Selected Coursework: Spatial Statistics and Data Analysis; Data Wrangling and Visualization*

**2015 - 2019**    **Honors Bachelor of Arts**      Toronto, ON
University of Toronto
- with High Distinction
- Double Major in Economics and Architectural Design

### WORKING PAPERS

[1] **Xu, H.**, Zhao, J. "Navigating Algorithmic Unfairness in Ride-Hailing: Examining Disparate Impacts of Transportation Network Company Algorithms in New York City."

[2] He, X., **Xu, H.**, Shen C., Zhuang D., Zheng Y., & Zhao J. "Modeling Latent Demand and Reducing Prediction Disparities of Ride-hailing: A Fair Quantile Regression Method."

[3] Guo X., **Xu H.**, Zheng Y., Zhuang D., & Zhao J. "Disparity-Reducing Vehicle Rebalancing in the Ride-hailing System."

### CONFERENCES, TALKS, & WORKSHOPS

**July 2025**    Gao J., **Xu H.**, Dao L. "Simulating Multi-Stakeholder Decision-Making with Generative Agents in Urban Planning"
*32nd International Conference on Transdisciplinary Engineering (TE2025, oral presentation, scheduled)*

**Jan./Apr. 2025**    Zhuang D., **Xu H.**, Guo X., Zheng Y., Wang S., & Zhao J. "Mitigating Spatial Disparity in

[Urban Prediction Using Residual-Aware Spatiotemporal Graph Neural Networks: A Chicago Case Study.](#)"
*105th Transportation Research Board Annual Meeting (TRB, poster presentation),*
*The International Workshop on Spatio-Temoporal Data Mining from the Web (WebsT'25 @ WWW'25, workshop, Best Paper Award)* [[proceeding](#)]

Oct. 2024    **Xu H.** "Navigating Algorithmic Unfairness in Ride-Hailing: Examining Disparate Impacts of Transportation Network Company Algorithms in New York City."
*2024 INFORMS Annual Meeting (invited talk)*

Sept. 2024    Mo B., **Xu H.**, Cho J. H., Zhuang D., Ma R., Guo X., & Zhao J. "[Large Language Model for Travel Behavior Prediction.](#)" [[extended abstract](#)]
*Conference in Emerging Technologies in Transportation Systems (TRC-30, poster presentation)*

### RESEARCH EXPERIENCE

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|---|---|---|
| 2023 - present | Researcher, **JTL Urban Mobility Lab, MIT** | Cambridge, MA |
| 2022 | Research Assistant, **FUSE Lab, Hong Kong University** | Remote |

### PROFESSIONAL EXPERIENCE

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|---|---|---|
| 2021 - 2023 | Data Analyst, Internal Risk Control and Compliance, **Meituan** | Beijing, China |
| 2020 - 2021 | Data and GIS Analyst**, CityDNA Technology Co.** | Beijing, China |
| 2020 | Data Science Intern, **AreaProbe** | Remote |

### TEACHING EXPERIENCE

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|---|---|
| 2024 - 2025 | Teaching Assistant, Introduction to Spatial Analysis and GIS, MIT |
| 2024 - 2025 | Teaching Assistant, Workshop on GIS, MIT |

### GRANT

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|---|---|
| 2024 | Racially Just Research Initiative Microgrant, DUSP MIT |
| 2025 | Graduate Student Council Conference Grant, GSC MIT |

### HONORS

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|---|---|
| 2024 | **Design and Technology Fellow**, FASPE |
| 2023 | **Presidential Graduate Fellowship**, MIT |
| 2020 | **Descartes Award (top 2 in the cohort)**, University of Pennsylvania |
| 2019 | **1st Place**, Wharton Customer Analytics + Electronic Arts Datathon |
| 2019 | **2nd Prize**, Computational Design and Robotic Fabrication International Competition, DigitalFUTURES, Tongji University |
| 2019 | **UofT Women in House**, University of Toronto |
| 2016-2019 | **Dean's List Scholar**, University of Toronto |

**INSTITUTE SERVICE**

2024-2025    **Student Representative**, MIT DUSP PhD Committee

**SKILLS**

**Data Science & Machine Learning:** Python + PyTorch, Julia + Gurobi, SQL, R, Excel, Google Cloud Computing
**Front End & Visualization**: JavaScript + html + css, Vue, Leaflet, Mapbox, Kepler
**Geo-Spatial Analysis**: ArcGIS, ArcPy, QGIS, Google Earth Engine, GeoDa
**Product Design**: Figma, Adobe Photoshop, Illustrator, InDesign

Last updated: Apr. 29th, 2025