

Shenhao Wang

EDUCATION

2020	Interdepartmental Ph.D. in Computer and Urban Science, MIT Dissertation: Deep neural networks for choice analysis
2017	Master in City Planning and Master of Science in Transportation, MIT
2014	B.A. in Economics, Peking University
2012	B.A. in Architecture and Law, Master in Architecture, Tsinghua University

ACADEMIC EXPERIENCE

2022 -	Assistant Professor in Urban Artificial Intelligence, Department of Urban and Regional Planning, University of Florida
2021 - 2022	Research Scientist, Urban Mobility Lab (50%) and Human Dynamics Group (50%), Media Lab, Massachusetts Institute of Technology
2020 – 2021	Postdoctoral Associate, Human Dynamics Group, Media Lab, MIT
2019 – 2021	Postdoctoral Associate, Urban Mobility Lab, Massachusetts Institute of Technology
2019 – 2020	Research Fellow, Zoba

JOURNAL PUBLICATIONS¹

J14. 2022	D. Zhuang, S. Wang* , H. Koutsopoulos, and J. Zhao, “Uncertainty quantification of sparse trip demand prediction with spatial-temporal graph neural networks”, (<i>Proceedings of the 28th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining</i> ; acceptance rate: 14.99%; Oral presentation, acceptance rate: 9.2%)
J13. 2022	S. Cranenburgh*, S. Wang , A. Vij, F. Pereira, and J. Walker, “Choice modeling in an age of machine learning – discussion paper”, (<i>Journal of Choice Modeling</i> : 100340) [IF: 3.1]
J12. 2021	H. Kong, P. Meredith-Karam, S. Wang , J. Zhao*, “The relationship between transportation network companies and public transit in Chicago: a comparison before and after COVID-19 shutdowns”, <i>Journal of Transport Geography</i> 97: 103219 [IF: 2.7]
J11. 2021	Y. Zheng, S. Wang* , and J. Zhao, “Equality of opportunity in travel demand prediction with deep neural networks and discrete choice models”, <i>Transportation Research Part C: Emerging Technologies</i> . 132: 103410. [IF: 8.1]
J10. 2021	S. Wang , Q. Wang, N. Bailey, and J. Zhao*. “Deep neural networks for choice analysis: A statistical learning theory perspective”, <i>Transportation Research Part B: Methodological</i> : 148: 60-81. [IF: 5.6]
J9. 2021	Y. Zheng, J. Moody, S. Wang , and J. Zhao*. “Measuring policy leakage of Beijing’s car ownership restriction”, <i>Transportation Research Part A: Policy and Practice</i> : 148: 223-236. [IF: 5.6]
J8. 2021	S. Wang* , B. Mo, and J. Zhao, “Theory-based residual neural networks: A synergy of discrete choice models and deep neural networks”, <i>Transportation Research Part B: Methodological</i> : 146: 333-358. [IF: 5.6]
J7. 2020	S. Wang* , Q. Wang and J. Zhao. “Multitask learning deep neural networks to combine revealed and stated preference data”, <i>Journal of Choice Modelling</i> : 100236 (Best Ph.D. paper award in <i>International Choice Modeling Conference</i> 2019) [IF: 3.1]
J6. 2020	S. Wang , Q. Wang and J. Zhao*. “Deep neural networks for choice analysis: Extracting complete economic information for interpretation”, <i>Transportation research part C: emerging technologies</i> , 118: 102701. [IF: 8.1]
J5. 2020	S. Wang , J. Moody, and J. Zhao*. “What prompts the adoption of car restriction policies among Chinese cities”, <i>International Journal of Sustainable Transportation</i> : 1-12. [IF: 3.9]
J4. 2020	S. Wang , B. Mo, and J. Zhao*. “Deep neural network for choice analysis: Architecture design with alternative-specific utility functions”, <i>Transportation Research Part C: Emerging Technologies</i> , 112, 234-251. [IF: 8.1]

¹ *: corresponding author; §: co-first author.

- J3. 2019 **S. Wang** and J. Zhao*. “Risk preference and adoption of autonomous vehicles.” *Transportation Research Part A: Policy and Practice*, 126, 215-229. [IF: 5.6]
- J2. 2019 J. Moody, **S. Wang**, J. Chun, X. Li and J. Zhao*. “Transportation policy profiles of Chinese city clusters: A mixed methods approach”, *Transportation Research Interdisciplinary Perspectives*, 2, 100053 [IF: 1.8]
- J1. 2017 **S. Wang** and J. Zhao*. “The distributional effects of lotteries and auctions – License plate regulations in Guangzhou.” *Transportation Research Part A: Policy and Practice*, 106, 473-483. [IF: 5.6]

AWARDS AND HONORS

- 2021 Dan and Eva Roos Ph.D. Dissertation Prize, MIT Mobility Initiative
- 2020 Eric Pas Dissertation Prize, Honorable Mention for one of the top two dissertations, awarded by International Association for Travel Behavior Research
- 2020 Outstanding Ph.D. Dissertation Award, Honorable Mention, Department of Urban Studies and Planning, MIT
- 2019 Best Ph.D. Paper Award, International Choice Modeling Conference
- 2019 Best Presentation Award in Doctoral Research Workshop, Transportation Research Board 98th Annual Conference
- 2014 Departmental Fellowship, Department of Urban Studies and Planning in MIT
- 2011 Outstanding Graduation Thesis, Tsinghua University
- 2009 Ni Tianzen Fellowship, Tsinghua University
- 2008 China National Fellowship, Tsinghua University

RESEARCH FUNDING

- 2020 – 2024 **Co-PI & Lead Researcher for MIT**: Transit-centric smart mobility system for high-growth urban activity centers: Improving energy efficiency through machine learning. (Collaboration with Northeastern University and National Renewable Energy Laboratory)
Funding Amount: **\$875,000 (50% of total \$1,750,000)**
Sponsor: United States Department of Energy
- 2019 - 2020 **Lead Researcher**: Spatiotemporal demand analysis of micro mobility with deep learning.
Funding Amount: **\$35,000 (100%)**
Sponsor: Zoba

INVITED TALKS

- 2021 “Deep neural networks for choice analysis.” Virtual talk for the Eric Pas Dissertation Prize in the seminar of International Association for Travel Behavior Research, Nov 29.
- 2021 “Deep neural networks for choice analysis.” Virtual talk. Next generation transportation systems seminar. University of Michigan, Nov 11.
- 2021 “Deep neural networks for choice analysis.” Virtual talk for the acceptance of Dan and Eva Roos Ph.D. Dissertation Prize. MIT Mobility Initiative. October 29.
- 2020 “Urban mobility with artificial intelligence and big data”, Virtual Talk. CoMotion LA. November 17.
- 2020 “Deep neural networks for choice analysis.” Virtual talk. Choice Modelling Centre, University of Leeds. June 2.
- 2020 “Deep learning in travel behavioral modeling.” Virtual talk. Computer Science & Artificial Intelligence Laboratory, MIT. April 13.

TEACHING EXPERIENCE

- 2019 Co-instructor, Deep Learning for Transportation, Fall, MIT;
Course Evaluation: 6.5 out of 7.0
- 2018 Teaching Assistant, Behavior and Policy: Connections in Transportation, Spring, MIT;
Course Evaluation: 6.0 out of 7.0