Baichuan Mo

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Executive Summary

I am currently a senior machine learning scientist at TikTok. I obtained my Transportation Ph.D. degree at MIT in 2022 and my dual Master's degree in Transportation and Computer Science at MIT in 2020. Before joining MIT, I obtained my dual Bachelor's degree in Civil Engineering and Management from Tsinghua University. My research focuses on the resilience of transportation systems with a specific application in public transit (PT), including 1) network performance and passenger behavior monitoring, 2) incident-aware PT control strategy design, and 3) interactions between PT and other transportation modes. My work utilizes various mathematical techniques including optimization (robust/integer/non-linear), probability and statistics, machine learning (deep/reinforcement learning), econometrics, and game theory. I have published **31** peer-reviewed scientific papers (**19** first-authored) in leading transportation journals (TR-A, B, C, E, IEEE ITS, TS, CACIE, EJOR, Nature Sustainability, etc.). My work resulted in significant industrial impact. During my internship at Lyft, I proposed a new vehicle routing algorithm for bike and scooter rebalancing and battery swap, which saves 1.6 operation million costs per year and has been implemented in all cities with Lyft's micro-mobility services. My work at Lyft focuses on real-time driver incentive design. I shipped two iterations of algorithms to over 200 cities and improved 38 million annual profits for the company (validated by A/B test). At TikTok Shop, I designed and delivered the first algorithm-driven free shipping policy from 0 to 1, resulting in 16.7% increase in ROI. I am currently leading the supply chain algorithm team at US TikTok Shop, working on problems like optimal fulfillment, inventory placement, demand forecasting, and middle mile optimization.

Education

2018–2022 **Massachusetts Institute of Technology,** Cambridge, MA
- PhD in Transportation (finish in **4** years)
- GPA: **5.0/5.0**; Complete 15 registered courses in the fields of transportation, computer science, optimization, probability and statistics, and economics. Obtain 6 A+.
- Advisors: Jinhua Zhao, Haris N. Koutsopoulos
- Committee members: Jinhua Zhao, Haris N. Koutsopoulos, Zuo-Jun Max Shen, Cathy Wu

2018–2020 **Massachusetts Institute of Technology,** Cambridge, MA
- Master of Science in Transportation
- Master of Science in Electrical Engineering and Computer Science (EECS)
- GPA: **5.0/5.0**
- Advisors: Jinhua Zhao, Haris N. Koutsopoulos, Patrick Jaillet

2014–2018 **Tsinghua University,** Beijing, China
- Bachelor of Civil Engineering
- Bachelor of Management (Dual degree)
- GPA: **93/100**; Rank: **1/105**
- Advisor: Ruimin Li
- *summa cum laude* (top 1%); Tsinghua Presidential Scholarship (a.k.a. Te Jiang); Valedictorian of the School of Civil and Hydraulic Engineering

Journal Publications

[Google Scholar ; Research Gate]

* means corresponding author. † means contributing equally

[J31] 2026 **Resilience Analysis of Urban Cyber-Physical-Social Systems: Insights from the 2023 Beijing Rainstorm**
Wenxin Ma, Baichuan Mo, Ruimin Li*
Reliability Engineering and System Safety, 2026, 272, 112579 SCI IF 11.0

[J30] 2026 **Application of License Plate Recognition Data in Intelligent Transportation Systems: A Review**
Jiehui Ng, Baichuan Mo, Lyuchao Liao, Ruimin Li*
European Transport Research Review, 2026 SCI IF 4.2

[J29] 2026 **A Federated Meta-Learning Approach for Interpretable, Privacy-Preserving, and Customizable Behavior Analysis**
Linlin You, Kunxu Chen, Baichuan Mo*, Jiemin Xie, Juanjuan Zhao*, Jinhua Zhao
Communications in Transportation Research, 2026, 6, 9640014 SCI IF 12.8

[J28] 2025 **Robust Binary and Multinomial Logit Models for Classification with Data Uncertainties**
Baichuan Mo, Yunhan Zheng*, Xiaotong Guo, Ruoyun Ma, Jinhua Zhao
European Journal of Operational Research, 2025, 327 (2), 577-591 SCI IF 6.0

[J27] 2025 **Individual Path Recommendation Under Public Transit Service Disruptions Considering Behavior Uncertainty**
Baichuan Mo*, Haris N. Koutsopoulos, Zuo-Jun Max Shen, Jinhua Zhao
Transportation Science, 2025, Accepted SCI IF 4.8

[J26] 2025 **Households Housing Exchange to Reduce Carbon Emissions**
Juanjuan Zhao†, Baichuan Mo†*, Nicholas S. Caros, Jinhua Zhao
Nature Sustainability, 2025, Accepted SCI IF 27.2

[J25] 2025 **Simulation-Based Optimization for Vertiport Location Selection: A Surrogate Model with Machine Learning Method**
Xuan Jiang*, Shangqing Cao, Baichuan Mo, Junzhe Cao, Hao Yang, Yuhan Tang, Mark Hansen, Jinhua Zhao, Raja Sengupta
Transportation Research Record, 2025, 2679 (2), 2099-2110 SCI IF 1.6

[J24] 2025 **Data-Driven Analysis and Modeling of Individual Longitudinal Behavior Response to Fare Incentives in Public Transport**
Leizhen Wang, Xin Chen, Zhenliang Ma*, Pengfei Zhang, Baichuan Mo, Peibo Duan
Transportation, 2025, 52 (1), 263-286 SCI IF 4.2

[J23] 2024 **Modeling Virus Transmission Risks in Commuting with Emerging Mobility Services: A Case Study of COVID-19**
Baichuan Mo*, Peyman Noursalehi, Haris N. Koutsopoulos, Jinhua Zhao
Travel Behaviour and Society, 2024, 34, 100689 SCI IF 5.1

[J22] 2024 **Robust Transit Frequency Setting Problem with Demand Uncertainty**
Xiaotong Guo*, Baichuan Mo, Haris N. Koutsopoulos, Shenhao Wang, Jinhua Zhao
IEEE Transactions on Intelligent Transportation Systems, 2024, 25 (10), 13305-13322 SCI IF 7.9

[J21] 2024 **Comparing Hundreds of Machine Learning and Discrete Choice Models for Travel Demand Modeling: An Empirical Benchmark**
Shenhao Wang, Baichuan Mo, Yunhan Zheng, Stephane Hess, Jinhua Zhao
Transportation Research Part B: Methodological, 2024, 190, 103061 SCI IF 5.8

[J20] 2024 **Robust Reinforcement Learning Strategies with Evolving Curriculum for Efficient Bus Operations in Smart Cities**
Yuhan Tang, Ao Qu*, Xuan Jiang, Baichuan Mo, Shangqing Cao, Joseph Rodriguez, Haris N. Koutsopoulos, Cathy Wu, Jinhua Zhao
Smart Cities, 2024, 7(6), 3658-3677 SCI IF 7.0

[J19] 2023 **Predicting Drivers' Route Trajectories in Last-Mile Delivery Using A Pair-Wise Attention-Based Pointer Neural Network**
Baichuan Mo, Qingyi Wang*, Xiaotong Guo, Matthias Winkenbach, Jinhua Zhao
Transportation Research Part E: Logistics and Transportation Review, 2023, 175, 103168 SCI IF 10.6

[J18] 2023 **Robust Path Recommendations During Public Transit Disruptions Under Demand Uncertainty**
Baichuan Mo*, Haris N. Koutsopoulos, Zuo-Jun Max Shen, Jinhua Zhao
Transportation Research Part B: Methodological, 2023, 169, 82-107 SCI IF 6.8

[J17] 2023 **Proof of Travel for Trust-Based Data Validation in V2I Communication**
Dajiang Suo*, Baichuan Mo, Jinhua Zhao, Sanjay E Sarma
IEEE Internet of Things Journal, 2023, 10 (11), 9565-9584 SCI IF 10.2

[J16] 2022 **Inferring Passenger Responses to Urban Rail Disruptions Using Smart Card Data: A Probabilistic Framework**
Baichuan Mo*, Haris N. Koutsopoulos, Jinhua Zhao
Transportation Research Part E: Logistics and Transportation Review, 2022, 159, 102628 SCI IF 10.1

[J15] 2022 **Individual Mobility Prediction in Mass Transit Systems Using Smart Card Data: An Interpretable Activity-Based Hidden Markov Approach**
Baichuan Mo, Zhan Zhao*, Haris N. Koutsopoulos, Jinhua Zhao
IEEE Transactions on Intelligent Transportation Systems, 2022, 23 (8), 12014-12026 SCI IF 9.6

[J14] 2022 **Ex Post Path Choice Estimation for Urban Rail Systems Using Smart Card Data: An Aggregated Time-Space Hypernetwork Approach**
Baichuan Mo, Zhenliang Ma*, Haris N. Koutsopoulos, Jinhua Zhao
Transportation Science, 2022, 57 (2), 313-335 SCI IF 4.9

[J13] 2022 **Impact of Unplanned Long-Term Service Disruptions on Urban Public Transit Systems**
Baichuan Mo*, Max Y Von Franque, Haris N. Koutsopoulos, John P Attanucci, Jinhua Zhao
IEEE Open Journal of Intelligent Transportation Systems, 2022, 3, 551-569 SCI IF 4.6

[J12] 2022 **Alleviating Data Sparsity Problems in Estimated Time of Arrival Via Auxiliary Metric Learning**
Yiwen Sun, Wenzheng Hu, Donghua Zhou, Baichuan Mo, Kun Fu, Zhengping Che, Zheng Wang, Shenhao Wang, Jinhua Zhao, Jieping Ye, Jian Tang, Changshui Zhang*
IEEE Transactions on Intelligent Transportation Systems, 2022, 23 (12), 23231-23243 SCI IF 9.6

[J11] 2021 **Modeling Epidemic Spreading Through Public Transit Using Time-Varying Encounter Network**
Baichuan Mo†, Kairui Feng†, Yu Shen*, Clarence Tam, Daqing Li, Yafeng Yin, Jinhua Zhao
Transportation Research Part C: Emerging Technologies, 2021, 122, 102893 SCI IF 9.0

[J10] 2021 **Impacts of Subjective Evaluations and Inertia from Existing Travel Modes on Adoption of Autonomous Mobility-on-Demand**
Baichuan Mo, Qing Yi Wang, Joanna Moody*, Yu Shen, Jinhua Zhao
Transportation Research Part C: Emerging Technologies, 2021, 130, 103281 SCI IF 9.0

[J9] 2021 **Competition Between Shared Autonomous Vehicles and Public Transit: A Case Study in Singapore**
Baichuan Mo, Zhejing Cao, Hongmou Zhang, Yu Shen, Jinhua Zhao*
Transportation Research Part C: Emerging Technologies, 2021, 127, 103058 SCI IF 9.0

[J8] 2021 **Impact of Pricing Policy Change on on-Street Parking Demand and User Satisfaction: A Case Study in Nanning, China**
Baichuan Mo, Hui Kong, Hao Wang, Xiaokun Cara Wang, Ruimin Li*
Transportation Research Part A: Policy and Practice, 2021, 148, 445-469 SCI IF 6.6

[J7] 2021 **Calibrating Path Choices and Train Capacities for Urban Rail Transit Simulation Models Using Smart Card and Train Movement Data**
Baichuan Mo, Zhenliang Ma*, Haris N. Koutsopoulos, Jinhua Zhao
Journal of Advanced Transportation, 2021, 5597130 SCI IF 2.2

[J6] 2021 **Theory-Based Residual Neural Networks: A Synergy of Discrete Choice Models and Deep Neural Networks**
Shenhao Wang*, Baichuan Mo, Jinhua Zhao
Transportation Research Part B: Methodological, 2021, 146, 333-358 SCI IF 7.6

[J5] 2020 **Estimating Dynamic Origindestination Demand: A Hybrid Framework Using License Plate Recognition Data**
Baichuan Mo, Ruimin Li*, Jingchen Dai
ComputerAided Civil and Infrastructure Engineering, 2020, 35 (7), 734-752 SCI IF 11.8

[J4] 2020 **Capacity-Constrained Network Performance Model for Urban Rail Systems**
Baichuan Mo, Zhenliang Ma, Haris N. Koutsopoulos, Jinhua Zhao
Transportation Research Record, 2020, 2674 (5), 59-69 SCI IF 1.6

[J3] 2020 **Deep Neural Networks for Choice Analysis: Architecture Design with Alternative-Specific Utility Functions**
Shenhao Wang*, Baichuan Mo, Jinhua Zhao
Transportation Research Part C: Emerging Technologies, 2020, 112, 234-251 SCI IF 8.1

[J2] 2018 **Impact of Built Environment on First-and Last-Mile Travel Mode Choice**
Baichuan Mo, Yu Shen*, Jinhua Zhao
Transportation Research Record, 2018, 2672 (6), 40-51 SCI IF 0.8

[J1] 2017 **Speed Profile Estimation Using License Plate Recognition Data**
Baichuan Mo, Ruimin Li*, Xianyuan Zhan
Transportation Research Part C: Emerging Technologies, 2017, 82, 358-378 SCI IF 4.0

Conference Proceedings

[C11] 2025 **SCOPE-MoE: Supply Chain Forecasting with A Pretrained MoE-Based Large Time Series Model in E-Commerce**
Shiyu Wang*, Xinyue Zhong, Jiawei Li, Baichuan Mo, Zhou Ye, Ming Jin*
IEEE 28th International Conference on Intelligent Transportation Systems (ITSC 2025), Accepted

[C10] 2025 **TimeMixer^{++}: A General Time Series Pattern Machine for Universal Predictive Analysis**
Shiyu Wang†, Jiawei Li†, Xiaoming Shi, Zhou Ye, Baichuan Mo, Wenze Lin, Shengtong Ju, Zhixuan Chu*, Ming Jin*
The 13th International Conference on Learning Representations (ICLR 2025), Oral Presentation (0.6%)

[C9] 2023 **Individual Longitudinal Adoption Pattern Analysis Under Fare Incentives Using Smart Card Data**
Leizhen Wang, Zhenliang Ma*, Pengfei Zhang, Xin Chen, Baichuan Mo, Peibo Duan
Transportation Research Board 102th Annual Meeting (TRB 2023), Oral Presentation

[C8] 2022 **Robust Path Recommendations During Public Transit Disruptions Under Demand Uncertainty**
Baichuan Mo*, Haris N. Koutsopoulos, Jinhua Zhao
Transportation Research Board 101th Annual Meeting (TRB 2022), Poster Presentation

[C7] 2021 **Impact of Unplanned Rail Disruption on Urban Transit Systems**
Baichuan Mo*, Max Y von Franque, Haris N. Koutsopoulos, John Attanucci, Jinhua Zhao
Transportation Research Board 100th Annual Meeting (TRB 2021), Poster Presentation

[C6] 2020 **Calibrating Route Choice for Urban Rail System: A Comparative Analysis Using Simulation-Based Optimization Methods**
Baichuan Mo, Zhenliang Ma*, Haris N. Koutsopoulos, Jinhua Zhao
Transportation Research Board 99th Annual Meeting (TRB 2020), Poster Presentation

[C5] 2020 **Network Performance Model for Urban Rail Systems**
Baichuan Mo, Zhenliang Ma*, Haris N. Koutsopoulos, Jinhua Zhao
Transportation Research Board 99th Annual Meeting (TRB 2020), Oral Presentation

[C4] 2020 **Latent Attitudes of Existing Travel Modes on Autonomous Vehicle Adoption**
Baichuan Mo, Qing Yi Wang, Yu Shen*, Jinhua Zhao
Transportation Research Board 99th Annual Meeting (TRB 2020) , Poster Presentation

[C3] 2020 **Predicting Travel Mode Choice with 86 Machine Learning Classifiers: An Empirical Benchmark Study**
Shenhao Wang*, Baichuan Mo, Jinhua Zhao
Transportation Research Board 99th Annual Meeting (TRB 2020), Poster Presentation

[C2] 2019 **Built Environment and Autonomous Vehicle Mode Choice: A First-Mile Scenario in Singapore**
Yu Shen, Baichuan Mo, Xiaohu Zhang*, Jinhua Zhao
Transportation Research Board 98th Annual Meeting (TRB 2019), Poster Presentation

[C1] 2018 **Impact of Built Environment on First- and Last-Mile Travel Mode Choice**
Baichuan Mo, Yu Shen*, Jinhua Zhao
Transportation Research Board 97th Annual Meeting (TRB 2018), Oral Presentation

In Preparation

All manuscripts are available upon reasonable requests

[P3] **Large Language Models for Travel Behavior Prediction**
Baichuan Mo, Hanyong Xu*, Dingyi Zhuang, Ruoyun Ma, Xiaotong Guo, Jinhua Zhao
arXiv preprint, 2312.00819

[P2] **Passenger Path Choice Estimation Using Smart Card Data: A Latent Class Approach with Panel Effects Across Days**
Baichuan Mo, Zhenliang Ma*, Haris N. Koutsopoulos, Jinhua Zhao
To be submitted to Transportation Research Part E

[P1] **Evaluation of Public Transit Systems Under Short Random Service Suspensions: A Bulk-Service Queuing Approach**
Baichuan Mo, Li Jin*, Haris N. Koutsopoulos, Zuo-Jun Max Shen, Jinhua Zhao
To be submitted to Informs Journal on Computing

Work & Research Experience

Dec 2023 – Present **TikTok E-Commerce, Supply Chain and Logistics Team**
Senior Machine Learning Engineer (T2-2)
- Lead the design the first algorithm-driven free shipping policy for TikTok E-Commerce platform from 0 to 1 based on **casual inference models**, increasing the repurchase of the system by 3.2% while saving 9.2% total subsidy cost. Significantly increase the shipping subsidy ROI.
- Develop the first warehouse-level demand forecasting model for TikTok Shop from 0 to 1 using **time-series models**, reducing prediction errors from 30% (manual forecasting) to 10%. The model has replaced the manual procedure for weekly warehouse labor planning.
- Got "M+" rating in the first performance review, even if the whole E-Commerce Org is "M-". Awarded 2024 H2 Spot Bonus for exceeding expectation performance (4/100+)

Sep 2022 – Dec 2023 **Lyft Inc., Real Time Supply Management Team**
Senior Research Scientist (T5)
- **Science tech lead** for Lyft's most important driver incentive product: Real-time Bonus Map. Design the product's future road map for 2024-2025.
- Develop a **heuristic** algorithm to solve a **nonlinear optimization** model to generate the bonus map for drivers. Commit **27k+ lines of production codes**. The algorithm is run in real time (every 2 minute) with streaming features.
- My work improves Lyft's annual rides by 3.3 million and driver hours by 0.93%, equivalent to **38 million annual profit** (validated by A/B test).
- Got 2 consecutive "Exceeding Expectation" ratings in the performance review, promoted to senior research scientist in a year (the fastest record at Lyft).

May 2022 – Aug 2022 **Lyft Inc., Transit Bike Scooter (TBS) Operation Technology Team**
Research Scientist Intern
- Propose a new initialization algorithm for solving vehicle routing problem in micromobility systems
- Improve the operation efficiency by 4.2%, equivalent to 1.6 million annual cost saving. Implemented the algorithm to production in all Lyft's micro-mobility service markets
- Got intern re-hire offer after the first-half of my intern period because of excellent performance

Aug 2018 – Present **Urban Mobility Lab and Transit Lab, MIT**
Research Assistant
- Conducting research in public transit, demand modeling, optimization, and machine learning.

Jan, Aug 2020 **Chicago Transit Authority (CTA)**
Research Intern
- Analyzed the impact of rail disruptions
- Designed passenger path recommendation strategies under rail disruptions

Jul 2019 – Aug 2019 **Hong Kong Mass Transit Railway (MTR)**
Research Intern
- Delivered a network performance model which is capable for system performance monitoring. [More]
- Gave four training seminars to MTR employees about the model application.

Jun – Jul in 2016 – 2019 **Singapore-MIT Alliance for Research and Technology (SMART) Center**
Research Intern
- Analyzed people's preference of autonomous vehicles (AV) [More].
- Studied the relationship between built environment of travel mode choice. [More]
- Simulated the interaction between AV and public transit from a competitive perspective. [More]

Dec 2015 –Aug 2018 **Institute of Transportation Research, Tsinghua University**
Research Assistant
- Proposed a vehicle speed profile estimation model. [More]
- Analyzed people's satisfaction of on-street parking. [More]

Projects & Funding Application

2024 – 2027 **Toward a Resilient Transportation System, $279,600**
Principal Investigator (PI) *National Science Foundation for Talented Young Researchers, China*
- The project aims to develop a framework to improve the cities' capability of handling unplanned incidents and service disruptions, especially in public transit systems
- The project focuses on monitoring, control and planning tasks that help the city to understand and mitigate incident impact, with metheds of machine learning and optimization

2020 – 2021 **Modeling COVID-19 Infection Risks in Commuting, $90,000**
Lead Researcher: Write proposal; Design research framework *MIT QUEST for Intelligence*
- The project aims to develop a commuting infection risk evaluation model for MIT community to support the decision-making for the MIT reopen plan during the COVID-19 pandemic
- The project got $90,000 funding support from MIT QUEST for Intelligence for 1 year

Rejected **Carbon Token to Increase Transit Ridership and Improve Equity, $200,000**
Co-Lead Researcher: Write proposal; Design research framework *US Department of Transportation*
- The project aims to design a blockchain-based travel incentive mechanism to encourage people's sustainable travel by using cryptocurrency. The token distribution algorithm we design can guarantee the minimum value of a token (related to the value of reduced carbon emissions). Our future prospective is to establish a blockchain-based carbon credits trading market
- The proposal was submitted to US DOT Small Business Innovation Research Program

Awards & Honors

2025 **Spot Bonus Award for Exceeding Expectation, TikTok Shop**
4/100+ in the global supply chain and logistics algorithm team

2024 **Global Urban Rail Transit Best Dissertation Award & Zhongheng Shi Honorary Prize**
First place. Awarded to an outstanding PhD dissertation in urban rail transit

2023 **Dan & Eva Roos Thesis Prize, MIT**
Awarded to an outstanding PhD dissertation in transportation and mobility at MIT. Applicants including students from computer science, economy, and operations research

2022 **Best PhD Dissertation Award, Chinese Overseas Transportation Association (COTA)**
Awarded to top PhD dissertations in transportation. Presented at the Dissertation Award Ceremony at TRB

2021 **Runner Up Award (2nd Place), Amazon Last-Mile Routing Research Challenge**
$50,000 cash prize shared with my teammates Xiaotong Guo and Qingyi Wang. Featured by [Amazon Science] and [MIT News]

2021 **UPS PhD Fellowship, MIT**
Around $90,000 fellowship covers one-year tuition and stipends. Awarded to a top PhD student conducting research in logistics, transportation, and supply chain. Applicants including students from computer science and operations research. [More]

2018 **Best Bachelor Thesis Award, Tsinghua University**
Top 4%

2018 **Outstanding Graduate Award, Tsinghua University and Beijing**
Top 2%

2017 **Tsinghua Presidential Scholarship (a.k.a. Te Jiang)**
Highest Tsinghua University undergraduate scholarship, 10 out of 3,300+ per year. [More]

2017 **Cai Xiong Scholarship, Tsinghua University**
Awarded to students with strong scientific potential, 10 out of 3,300+ per year.

2016 **First Place, Structural Design Competition, Tsinghua University**
Along with the Best Loading Capacity Award and Best Structure Calculation Award. Most important competition in Tsinghua Dept. of Civil Engineering

2016–2022 **Tang Lixin Scholarship, Tsinghua University**
Awarded to students with outstanding academic performance until they finish the graduate study, ∼30 out of 3,300+ per year

2015 **10-th "Spark" Innovative Talent Cultivation Program, Tsinghua University**
Academic and scientific research talents training program for top Tsinghua undergraduates, ∼40 per year [More]

2015–2018 **Tang Zhongying Moral Education Scholarship, Tsinghua University**
Awarded to students with excellent academic performance and enthusiasm for public welfare, ∼100 per year

2015 **China National Scholarship**
Highest scholarship given by Chinese government, top 0.1%

2014 **Outstanding Graduate Award (for High School Students), Beijing**
Top 5%

2014 **Ranked 11th in the National College Entrance Exam, Beijing**
Scores 712/750; Admitted by Tsinghua University, top 0.02%

Invited Talks & Guest Lectures

Mar 2024 **Toward a Resilient Transportation System: Applications to Public Transit**
Tsinghua University

Mar 2024 **Toward a Resilient Transportation System: Applications to Public Transit**
Zhejiang University

June 2023 **Implementation of Algorithms in Shared Mobility Industry**
MIT, JTL Urban Mobility Lab

May 2023 **Implementation of Algorithms in Shared Mobility Industry**
University of California, Berkeley

Dec 2022 **Toward a Resilient Transportation System: Applications to Public Transit**
Young Scholars Symposium on Frontiers in Innovative Technology, Shanghai Jiao Tong University

July 2022 **Individual Path Recommendation Under Public Transit Service Disruptions Considering Behavior Uncertainty and Equity**
C2SMART Center, New York University

Aug 2021 **Individual Mobility Prediction: An Interpretable Hidden Markov Approach**
Southeast University-Monash University Joint Graduate School

May 2021 **Toward a Resilient Public Transit System**
International Young Scholars Forum, Tongji University

Apr 2021 **Toward a Resilient Public Transit System**
Smart Transportation Lab, McGill University

Jul 2020 **Modeling Epidemic Spreading through Public Transit using Time-Varying Encounter Network**
MIT Center for Real Estate, Virtual Summer Seminar Series

Jun 2019 **Assignment-based Path Choice Estimation for Metro Systems Using Smart Card Data**
Southeast University-Monash University Joint Graduate School

Academic Service

Journal Referees Transportation Research Part A • Transportation Research Part B • Transportation Research Part C • Transportation Research Part E • IEEE Transactions on Intelligent Transportation Systems • Transportation • Transport Policy • Journal of Transport Geography • Travel Behavior and Society • Transportmetrica A • Journal of Public Transportation • PLOS One • Journal of Advanced Transportation • Communications in Transportation Research • Data Science for Transportation • Urban Rail Transit • International Journal of Transportation Science and Technology • Computer Modeling in Engineering & Sciences • Journal of Data Analysis and Information Processing

Conference Referees Transportation Research Board Annual Meeting (TRB) • IEEE Conference on Intelligent Transportation Systems (IEEE ITSC)

Leadership & Community Activities

Jan. 2021 – Sep. 2022 **MIT Chinese Student and Scholar Association (CSSA)**
Executive Board Member
- Co-organized 2021 MIT-Harvard online Chinese Lantern festival celebration and 2021 Mid-Autumn festival celebration.
- Volunteer for healthy bags dispatching

Jun. 2021 – Sep. 2022 **MIT Chinese Entrepreneur Organization (CEO)**
Treasurer and Executive Team Member
- Reimbursement and funding management
- Co-organized "FreesFund" mini-salon activity
- Co-organized 2021 Fall MIT Asian Career Info Session Series

Dec. 2016 – Dec. 2017 **American Society of Civil Engineers International Student Group (ASCE-ISG) of Tsinghua University**
President
- Organized 23rd Tsinghua University Structure Design Competition (300+ participants)
- Organized more than 15 group meetings for around 50 active members
- Represented Tsinghua at 3rd ASCE-ISG China Regional Annual Meeting

Dec. 2016 – Dec. 2017 **Student Association for Science and Technology (SAST) in Dept. of Civil Engineering**
President
- Organized 20+ competitions and activities, including Transportation Technology Competition
- Initiated "Innovative Talent Training Program", which financially supported undergraduate research projects and summer research training at top international institutions
- Obtained Outstanding SAST Award in Tsinghua University ($< 20\%$)

Sep. 2015 – Dec. 2016 **Class 42 in Dept. of Civil Engineering**
Class President
- Organized class parties and other team-building activities
- Obtained Tsinghua University Excellent Class Award ($< 10\%$)

Computer Skills

Proficient `Python`, `Matlab`, `R`, LaTeX, `Julia`, `AutoCAD`

Familiar `C`, `MySQL`, `HTML`, `ArcGIS`, `Weka`

Libraries `Pandas`, `NumPy`, `Tensorflow`, `Keras`, `PyTorch`, `scikit-learn`, `SciPy`, `Gurobi`, `Matplotlib`

Language

English Fluent

Chinese Mother tongue