

WANG Hai

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Education

PhD, Massachusetts Institute of Technology, United States of America, 2015
Master of Science, Massachusetts Institute of Technology, United States of America, 2012
Master of Science, Massachusetts Institute of Technology, United States of America, 2012
Bachelor of Science, Tsinghua University, China, 2009

Academic Appointments

Associate Professor of Information Systems, School of Computing and Information Systems, SMU, Jan 2022 - Present
Guest Lecturer, Peking University, China, Apr 2021 - Apr 2021
Guest Lecturer, Tsinghua University, China, Dec 2020 - Dec 2020
Guest Lecturer, Carnegie Mellon University, United States of America, Apr 2020 - Apr 2020
Guest Lecturer, Carnegie Mellon University, United States of America, Mar 2020 - Mar 2020
Guest Lecturer, MIT, Singapore, Oct 2019 - Oct 2019
Guest Lecturer, Singapore Management University, Singapore, Oct 2018 - Oct 2018
Guest Lecturer, Singapore University of Technology and Design, Singapore, Oct 2017 - Oct 2017
Guest Lecturer, Tsinghua University, China, May 2017 - May 2017
Guest Lecturer, Singapore Management University, Singapore, Jul 2016 - Jul 2016
Guest Lecturer, Singapore Management University, Singapore, Jan 2016 - Jan 2019
Assistant Professor of Information Systems, School of Computing and Information Systems, SMU, Jul 2015 - Dec 2021
Teaching Assistant, MIT, Singapore, Sep 2012 - Sep 2013

Other Positions and Affiliations

AI and OR Advisor, Singapore Changi Airport Group, Singapore, Jan 2024 - Present

Awards and Honors

Worlds Top 1% Scientists, Stanford/Elsevier, 2025, 2024

Best Paper Award, The 16th International Workshop on Computational Transportation Science (CTS), 2025

Finalist (Best Applied Paper Competition), 20th INFORMS Data Mining and Decision Analytics (DMDA) Workshop, 2025

Teaching Excellence Award (Annual Core Curriculum), Singapore Management University, 2025

Teaching Excellence Award, Singapore Management University, 2025

Transportation Science Meritorious Service Award (Associate Editor), Transportation Science, 2024

Cross-Regional Collaborative Grant Award, INFORMS TSL, 2024

Best Paper Award, INFORMS TSL Urban Transportation SIG, 2024

Short-list Nominee for Teaching Excellence Award, Singapore Management University, 2024

Lee Kong Chian Fellowship for Research Excellence, Singapore Management University, 2022, 2018

Transportation Science Meritorious Service Award, INFORMS TSL (Institute for Operations and the Management Sciences), 2022

Transportation Science Meritorious Service Award, INFORMS TSL (Institute for Operations Research and the Management Sciences, Transportation Science and Logistics Society), 2021

PwC Risk and Regulatory Service Innovation Research Award, PricewaterhouseCoopers, 2020

Outstanding Paper Award, The 3rd Conference of the Yangtze-River Research and Innovation Belt, 2020

Research Excellence Award, Lee Kong Chian Fellowship, 2019, 2018

Best Paper Award, The 10th International Workshop on Computational Transportation Science (CTS), 2018

Best Paper Award, The 10th International Workshop on Computational Transportation Science, 2018

Fellow, Chan Wui & Yunyin Rising Star Workshop in Transportation, 2018

University Junior Faculty Teaching Excellence Award, Singapore Management University, 2017

Nominee for Goodwin Medal of MIT Best Teaching Assistant (Course: Urban O.R.), Massachusetts Institute of Technology, 2014

Semifinalist in MIT 100K Entrepreneurship Competition (Project: Shared Logistics), Massachusetts Institute of Technology, 2014

First Prize Winner in INFORMS RAS (Railway Application Society) Problem Solving Competition, INFORMS, 2013

MIT Chyn Duog Shish Memorial Fellowship for Excellent Ph.D. Student, Massachusetts Institute of Technology, 2009

National Award for Excellent Graduate, China Civil Engineering Society, 2009

Graduation with Highest Honors (Top 1%), Tsinghua University, 2009

Ranked 1st in Department in Civil Engineering, Tsinghua University, 2009

First Class Honors Fellowship, Tsinghua University, 2008, 2007, 2006, 2005

National Scholarship, Ministry of Education, China, 2008

Jiang Nanxiang Presidential Fellowship, Tsinghua University, 2008

Ranked 1st in NCEE Subject of Comprehensive Science, Sichuan, China, 2005

RESEARCH

Research Interests

Domains

1. Smart Cities and Urban Systems
2. Innovative Transportation and Mobility
3. Shared Services and Sharing Economy
4. Logistics and Healthcare

Methodologies

1. Data-Driven Optimization
2. Large-Scale Data Analytics
3. Advanced Computing Methods
4. Machine Learning

Publications

Journal Articles [Refereed]

Seamless urban metro networks: A shared depot perspective on rolling stock scheduling, by ZHOU, Housheng; WANG, Hongyang; WANG, Hai; QI, Jianguo; YANG, Lixing. (2025). *Transportation Research Part B: Methodological*, 204 1-31. <https://doi.org/10.1016/j.trb.2025.103379> (Published)

Real-time estimated Sequential Organ Failure Assessment (SOFA) score with intervals: Improved risk monitoring with estimated uncertainty in health condition for patients in intensive care units, by HE, Yan; LUO, Qian; WANG, Hai; ZHENG, Zhichao; LUO, Haidong; OOI, Oon Cheong. (2025). *Health Information Science and Systems*, 13 (12), 1-10. <https://doi.org/10.1007/s13755-024-00331-5> (Published)

Order dispatching strategy and pricing scheme in ride-sourcing markets with consideration of service cancellation, by WANG, Jing-Peng; WANG, Hai; LIU, Peng; HUANG, Hai-Jun. (2025). *Transportation Research Part B: Methodological*, 199 (103266), 1-22. (Published)

Understanding order cancellation behavior in on-demand delivery services, by LIANG, Jian; ZHAO, Ya; WANG, Hai; YANG, Lingchuan; KE, Jintao. (2025). *Transportation Research Part A: Policy and Practice*, 198 1-23. <https://doi.org/10.1016/j.tra.2025.104515> (Published)

Tactical operations of service region dimensioning, bundling, and matching for on-demand food delivery services, by ZHANG, Kaihang; KE, Jintao; WANG, Hai; YIN, Yafeng. (2025). *Transportation Research Part C: Emerging Technologies*, 174 1-25. <https://doi.org/10.1016/j.trc.2025.105069> (Published)

A data-driven approach for determining airport declared capacity, by WANG, Ziming; WANG, Yanjun; XU, Weishan; WANG, Hai; LIU, Fangzi. (2025). *Transportation Research Part C: Emerging Technologies*, 171 1-25. <https://doi.org/10.1016/j.trc.2025.105012> (Published)

Why are fairness concerns so important? Lessons from a last-mile transportation system, by CHEN, Yiwei; WANG, Hai. (2025). *Transportation Research Part A: Policy and Practice*, 192 1-35. <https://doi.org/10.1016/j.tra.2024.104361> (Published)

Last digit tendency: Lucky number and psychological rounding in mobile transactions, by WANG, Hai; LU, Tian; ZHANG, Yingjie; WU, Yue; SUN, Yiheng; DONG, Jingran; HUANG, Wen. (2025). *Fundamental Research*, 5 (1), 370-378. <https://doi.org/10.1016/j.fmre.2023.11.011> (Published)

Modeling and regulating a ride-sourcing market integrated with vehicle rental services, by MO, Dong; WANG, Hai; CAI, Zeen; SZETO, W. Y.; CHEN, Xiquan (Michael). (2024). *Transportation Research Part E:*

Logistics and Transportation Review, 192 1-34. <https://doi.org/10.1016/j.tre.2024.103797> (Published)

An aggregate matching and pick-up model for mobility-on-demand services, by LI, Xinwei; KE, Jintao; YANG, Hai; WANG, Hai; ZHOU, Yaqian. (2024). *Transportation Research Part B: Methodological*, 190 1-31. <https://doi.org/10.1016/j.trb.2024.103070> (Published)

Uncovering merchants' willingness to wait in on-demand food delivery markets, by LIANG, Jian; ZHAO, Ya; WANG, Hai; XIAO, Zuopeng; KE, Jintao. (2024). *Transport Policy*, 158 14-28. <https://doi.org/10.1016/j.tranpol.2024.09.002> (Published)

Uncovering merchants' willingness to wait in on-demand food delivery markets, by LIANG, Jian; ZHAO, Ya; WANG, Hai; XIAO, Zuopeng; KE, Jintao. (2024). *Transport Policy*, 158 14-28. <https://doi.org/10.1016/j.tranpol.2024.09.002> (Published)

Optimization of customer service and driver dispatch areas for on-demand food delivery, by YANG, Jingfeng; LAU, Hoong Chuin; WANG, Hai. (2024). *Transportation Research Part C: Emerging Technologies*, 165 1-30. <https://doi.org/10.1016/j.trc.2024.104653> (Published)

Path-choice-constrained bus bridging design under urban rail transit disruptions, by ZHU, Yiyang; JIN, Jian Gang; WANG, Hai. (2024). *Transportation Research Part E: Logistics and Transportation Review*, 188 1-17. <https://doi.org/10.1016/j.tre.2024.103637> (Published)

Multiobjective stochastic optimization: A case of real-time matching in ride-sourcing markets, by LYU, Guodong; CHEUNG, Wang Chi; TEO, Chung-Piaw; WANG, Hai. (2024). *Manufacturing & Service Operations Management*, 26 (2), 500-518. <https://doi.org/10.1287/msom.2020.0247> (Published)

A poisson-based distribution learning framework for short-term prediction of food delivery demand ranges, by LIANG, Jian; KE, Jintao; WANG, Hai; YE, Hongbo; TANG, Jinjun. (2023). *IEEE Transactions on Intelligent Transportation Systems*, 24 (12), 14556-14569. <https://doi.org/10.1109/TITS.2023.3297948> (Published)

Understanding multi-homing and switching by platform drivers, by GUO, Xiaotong; HAUPT, Andreas; WANG, Hai; QADRI, Rida; ZHAO, Jinhua. (2023). *Transportation Research Part C: Emerging Technologies*, 154 1-20. <https://doi.org/10.1016/j.trc.2023.104233> (Published)

Slot allocation for a multiple-airport system considering airspace capacity and flying time uncertainty, by WANG, Yanjun; LIU, Chang; WANG, Hai; DUONG, Vu. (2023). *Transportation Research Part C: Emerging Technologies*, 153 <https://doi.org/10.1016/j.trc.2023.104185> (Published)

Optimization of Station-Skip in a Cyclic Express Subway Service, by YANG, Jingfeng; WANG, Hai; JIN, Jiangang. (2023). *Networks and Spatial Economics*, 23 (2), 445-468. <https://doi.org/10.1007/s11067-021-09543-8> (Published)

The three-sided market of on-demand delivery, by BAHRAMI, S.; NOURINEJAD, M.; YIN, Y.; WANG, H.. (2023). *Transportation Research Part E: Logistics and Transportation Review*, 179 (Accepted)

Supply regulation under the exclusion policy in a ride-sourcing market, by LI, Xiaonan; LI, Xiangyong; WANG, Hai; SHI, Junxin; ANEJA, Yash P.. (2022). *Transportation Research Part B: Methodological*, 166 69-94. <https://doi.org/10.1016/j.trb.2022.10.005> (Published)

Competition and third-party platform-integration in ride-sourcing markets, by ZHOU, Yaqian; YANG, Hai; KE, Jintao; WANG, Hai; LI, Xinwei. (2022). *Transportation Research Part B: Methodological*, 159 76-103. <https://doi.org/10.1016/j.trb.2021.08.002> (Published)

Fleet sizing and allocation for on-demand last-mile transportation systems, by SHEHADEH, Karmel; WANG, Hai; ZHANG, Peter. (2021). *Transportation Research Part C: Emerging Technologies*, 132 1-19. (Published)

Feeder vessel routing and transshipment coordination at a congested hub port, by JIN, Jiangang; MENG, Qiang; WANG, Hai. (2021). *Transportation Research Part B: Methodological*, 151 1-21. (Published)

A mean-field Markov decision process model for spatial-temporal subsidies in ride-sourcing markets, by ZHU, Zheng; KE, Jintao; WANG, Hai. (2021). *Transportation Research Part B: Methodological*, 150 540-565. (Published)

Semi-Analytical Model for Design and Analysis of On-Orbit Servicing Architecture, by HO, Koki; WANG, Hai; DE TREMPÉ, Paul A.; DU JONCHAY, Tristan Sarton; TOMITA, Kento. (2020). *Journal of Spacecraft and Rockets*, 57 (6), 1129-1138. <https://doi.org/10.2514/1.A34663> (Published)

Pricing and equilibrium in on-demand ride-pooling markets, by KE, Jintao; YANG, Hai; LI, Xinwei; WANG, Hai; YE, Jieping. (2020). *Transportation Research Part B: Methodological*, 139 411-431. <https://doi.org/10.1016/j.trb.2020.07.001> (Published)

Integrated reward scheme and surge pricing in a ride sourcing market, by YANG, Hai; SHAO, Chaoyi; WANG, Hai; YE, Jieping. (2020). *Transportation Research Part B: Methodological*, 134 126-142. <http://doi.org/10.2139/ssrn.3198081> (Published)

Validation of prognostic accuracy of the SOFA score, SIRS criteria, and qSOFA score for in-hospital mortality among cardiac-, thoracic-, and vascular-surgery patients admitted to a cardiothoracic intensive care unit, by ZHANG, Yuchong; LUO, Haidong; WANG, Hai; ZHENG, Zhichao; OOI, Oon Cheong. (2020). *Journal of Cardiac Surgery*, 35 (1), 118-127. <https://doi.org/10.1111/jocs.14331> (Published)

Ridesourcing systems: A framework and review, by WANG, Hai; YANG, Hai. (2019). *Transportation Research Part B: Methodological*, 129 122-155. <https://doi.org/10.1016/j.trb.2019.07.009> (Published)

Model and analysis of labor supply for ride-sharing platforms in the presence of sample self-selection and endogeneity, by SUN, Hao; WANG, Hai; WAN, Zhixi. (2019). *Transportation Research Part B: Methodological*, 125 76-93. <https://doi.org/10.1016/j.trb.2019.04.004> (Published)

Coordinating Supply and Demand on an On-Demand Service Platform with Impatient Customers, by BAI, Jiaru; SO, Kut C.; TANG, Christopher S.; CHEN, Xiqun; WANG, Hai. (2019). *Manufacturing & Service Operations Management*, 21 (3), 556-570. <https://doi.org/10.1287/msom.2018.0707> (Published)

Routing and Scheduling for a Last-Mile Transportation System, by WANG, Hai. (2019). *Transportation Science*, 53 (1), 131-147. <https://doi.org/10.1287/trsc.2017.0753> (Published)

Pricing for a Last-Mile Transportation System, by CHEN, Yiwei; WANG, Hai. (2018). *Transportation Research Part B: Methodological*, 107 57-69. <https://doi.org/10.1016/j.trb.2017.11.008> (Published)

Approximating the Performance of a "Last Mile" Transportation System, by WANG, Hai; ODONI, Amedeo. (2016). *Transportation Science*, 50 (2), 659-675. <https://doi.org/10.1287/trsc.2014.0553> (Published)

Journal Articles [Non-Refereed]

Transportation-enabled services: Concept, framework, and research opportunities, by AGATZ, Niels; CHO, Soo-Haeng; SUN, Hao; WANG, Hai. (2024). *Service Science*, 16 (1), 1-21. <https://doi.org/10.1287/serv.2024.0116> (Published)

Editorials

Editorial: Emerging on-demand passenger and logistics systems: Modelling, optimization, and data analytics, by KE, Jintao; WANG, Hai; MASOUD, Neda; SCHIFFER, Maximilian; CORREIA, Goncalo H. A.. (2024). *Transportation Research Part C: Emerging Technologies*, 161 1-5. <https://doi.org/10.1016/j.trc.2024.104574> (Published)

Editorial: Innovative shared transportation, by NIE, Marco; WANG, Hai; SZETO, Wai Yuen. (2023). *Transportation Research Part B: Methodological*, 171 1-2. <https://doi.org/10.1016/j.trb.2023.02.013> (Published)

Introduction to the Special Issue on Innovation in Transportation-Enabled Urban Services, Part 1, by AGATZ, Niels; CHO, Soo-Haeng; WANG, Hai; BENJAAFAR, Saif. (2023). *Service Science*, 15 (1), 1-2. <https://doi.org/10.1287/serv.2023.0317> (Published)

Transportation-enabled urban services: A brief discussion, by WANG, Hai. (2022). *Multimodal Transportation*, 1 (2), 1-4. <https://doi.org/10.1016/j.multra.2022.100007> (Published)

Call for papers - Special issue of service Science: Innovation in transportation-enabled urban services, by AGATZ, Niels; CHO, Soo-Haeng; WANG, Hai; BENJAAFAR, Saif. (2021). *Service Science*, 13 (1), 51-52. <https://doi.org/10.1287/serv.2020.0268> (Published)

Books (Refereed)

Supply and demand management in ride-sourcing markets by KE, Jintao; YANG, Hai; WANG, Hai; YIN,

Yafeng. (2023). Amsterdam: Elsevier. <https://doi.org/10.1016/C2022-0-01127-2> (Published)

Books (Non-Refereed)

Model and analysis of service labor supply for shared transportation by SUN, Hao; WANG, Hai; WAN, Zhixi. (2019). (Published)

Book Chapters

Time-based payout ratio for coordinating supply and demand on an on-demand service platform, by BAI, Jiaru; SO, Kut C.; TANG, Christopher S.; CHEN, Xiqun; WANG, Hai. (2019). In Ming Hu (Ed.), *Sharing economy: Making supply meet demand* (pp. 115-136) Cham: Springer. https://doi.org/10.1007/978-3-030-01863-4_7 (Published)

Conference Proceedings

Gig worker social referrals on an on-demand food delivery platform, by WANG, Hai; SUN, Hao; ZHANG, Peter. (2026.0). *Proceedings of the 59th Hawaii International Conference on System Sciences (HICSS-59), 2026 January 6-9*, (pp. 4171-4180) Singapore: <https://scholarspace.manoa.hawaii.edu/server/api/core/bitstreams/49744d92-8304-498f-a5d9-40fee80832bd/content> (Published)

Group-and-match vs. route-then-insert: Order dispatching in vehicle-based dual services (VeDuS), by LIN, Yue; YANG, Hai; WANG, Hai. (2025.0). *Proceedings of the 12th Triennial Symposium on Transportation Analysis (TRISTAN XII), Okinawa, Japan, 2025 June 22-27*, (pp. 1-4) Singapore: https://tristan2025.org/proceedings/TRISTAN2025_ExtendedAbstract_441.pdf (Published)

Minimum multi-service fleet size problem: Shareability graph and network flow approach, by YANG, Dingtong; LIU, Yubin; WANG, Hai; ZHAO, Jinhua; BALAKRISHNAN, Hamsa. (2025.0). *Proceedings of the The 12th Triennial Symposium on Transportation Analysis (TRISTANXII), Okinawa, Japan, June 22-27*, (pp. 1-4) Singapore: (Published)

Drone delivery network design with uncertainties, by ZENG, Wenjia; JIANG Ruiwei; YANG, Hai; WANG, Hai. (2025.0). *Proceedings of the 12th Triennial Symposium on Transportation Analysis (TRISTAN XII), Okinawa, Japan, 2025 June 22-27*, (pp. 1-4) Singapore: https://tristan2025.org/proceedings/TRISTAN2025_ExtendedAbstract_407.pdf (Published)

A mean-field Markov decision process model for spatial temporal subsidies in ride-sourcing markets, by ZHU, Zheng; KE, Jintao; WANG, Hai. (2022.0). *A Mean-Field Markov Decision Process Model for Spatial Temporal Subsidies in Ride-Sourcing Markets*, China: (Forthcoming)

A mean-field Markov decision process model for spatial-temporal subsidies in ride-sourcing markets, by ZHU, Zheng; KE, Jintao; WANG, Hai. (2021.0). *Proceedings of the 24th International Symposium on Transportation and Traffic Theory, Beijing, China, 2021, July 24 - 26*, (pp. 540-565) Amsterdam: Elsevier. (Published)

Short-term repositioning for empty vehicles on ride-sourcing platforms, by WANG, Hai; WANG, Zhengli. (2020.0). *Proceedings of the Second Triennial Conference, Arlington, VA, 2020 May 27-29*, (pp. 1-4) USA: (Published)

Matching passengers and drivers with multiple objectives in ride sharing markets, by LYU, Guodong; TEO, Chung Piaw; CHEUNG, Wangchi; WANG, Hai. (2019.0). *Proceedings of the 10th Triennial Symposium on Transportation Analysis, Hamilton Island, Australia, 2019 June 17-21*, (pp. 1-4) Hamilton Island, Australia: (Published)

Design and implementation of decision support for traffic management at multipurpose port gates, by KULKARNI Ketki; LAU, Hoong Chuin; SIVABALASINGAM, Sathyavarathan; TRAN, Trong Khiem. (2018.0). *WSC '18: Proceedings of the Winter Simulation Conference, Gothenburg, Sweden, December 9-12*, (pp. 2909-2920) New York: ACM. <https://doi.org/10.1109/WSC.2018.8632493> (Published)

Integrated reward scheme and surge pricing in a ride-sourcing market, by YANG, Hai; SHAO, Chaoyi; WANG, Hai; YE, Jieping. (2018.0). *Transportation Systems in the Connected Era: Proceedings of the 23rd International Conference of Hong Kong Society for Transportation Studies HKSTS 2018: Hong Kong*,

December 8-10, (pp. 209-218) Hong Kong: HKSTS. <https://doi.org/10.2139/ssrn.3198081> (Published)

Column generation approach for feeder vessel routing and synchronization at a congested transshipment port, by JIN, Jian G.; MENG, Qiang; WANG, Hai. (2018.0). *Proceedings of the 7th International Workshop on Freight Transportation and Logistics, Cagliari, Italy, 2018 June 3-8*, (pp. 1-4) Cagliari, Italy: (Published)

Optimization of a cyclic express subway service, by WANG, Hai; JIN, Jiangang; YANG, Jingfeng. (2018.0). *Proceedings of the 6th International Symposium on Reliability Engineering and Risk Management 6ISREM: Singapore, 2018 May 31 - June 1*, (pp. 73-78) Singapore: Research Publishing. https://doi.org/10.3850/978-981-11-2726-7_CMTA03 (Published)

Efficient gate system operations for a multipurpose port using simulation optimization, by KULKARNI, Ketki; TRAN, Khiem Trong; WANG, Hai; LAU, Hoong Chuin. (2017.0). *2017 Winter Simulation Conference: Las Vegas, NV, December 3-6: Proceedings*, (pp. 3090-3101) Piscataway, NJ: IEEE. <https://doi.org/10.1109/WSC.2017.8248029> (Published)

Core Determining Class and Inequality Selection, by LUO, Ye; WANG, Hai. (2017.0). *American Economic Review: Papers & Proceedings 2017*, (pp. 274-277) Chicago: American Economic Association. <http://doi.org/10.1257/aer.p20171041> (Published)

Solving the railway yard operation problem: Greedy heuristics, integer programming models, and waiting time approximations, by WANG, HAI; JIN, Jiangang; LIN, Maokai. (2013.0). *2013 INFORMS (Railway Application Society) Problem Solving Competition, USA*: (Published)

Conference Papers

Approximating the Performance of a "Last Mile" Transportation System, by WANG, Hai; ODoni, Amedeo. (2016.0). *Triennial Symposium on Transportation Analysis TRISTAN VIII 2013, June 9-14, San Pedro de Atacama*. (Presented)

Working Papers

Multi-objective online ride-matching, by LYU, Guodong; CHEUNG, Wang Chi; TEO, Chung-Piaw; WANG, Hai. (2019). (Published)

Identifying and computing the exact core-determining class, by LUO, Ye; WANG, Hai. (2018). <http://doi.org/10.2139/ssrn.3154285> (Published)

Research Grants

Singapore Management University

Human workers and resource allocation optimization, Singapore-MIT Alliance for Research and Technology (SMART) , PI (Project Level): WANG Hai, 2024, S\$338,000

Data-driven Optimisation and Artificial Intelligence for Future Fintech, Tokka Labs Pte Ltd , PI (Project Level): WANG Hai, 2023, S\$156,000

Optimal Personalised Medical Intervention Using Predictive Information in ICUs, Academic Research Fund (AcRF) Tier 2, Ministry of Education (MOE) , PI (Project Level): ZHENG Zhichao Daniel , Co-PI (Project Level): WANG Hai, 2019, S\$620,532

Optimizing Driver Incentives through Understanding Driver Behavior, Xiaoju Science and Technology (Hongkong) Limited , PI (Project Level): WANG Hai, 2017, S\$10,000

Deploying Mobile Crowdsourcing Emergency Supplies to Improve Emergency Response Times, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): WANG Hai , Co-PI (Project Level): CAO Zhiguang, 2024, S\$50,000

Predictive data analytics and real-time risk monitoring for intensive care units, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): ZHENG Zhichao Daniel , Co-PI (Project Level): WANG Hai, 2017, S\$149,710

Pricing and Design of a Last Mile Transportation System with Multi-Type Users, SMU Internal Grant, Ministry of Education (MOE) Tier 1 , PI (Project Level): WANG Hai, 2016, S\$130,923

Other Institutions

Analysis and Optimization of Customer and Rider Satisfaction in Food Delivery. 2021-2022., -, Meituan Co-PI (Project Level): WANG Hai, USD108,000

Joint Optimization of School Bus Routes and Last Mile Services. 2020-2021, Mobility21, Mobility21 Co-PI (Project Level): WANG Hai, USD93,379

Financial Crime Prediction and Detection.2020., -, PwC PI (Project Level): WANG Hai, USD26,604

Matching in On-Demand Shared Transportation.2019-2020., SMART, Future Urban Mobility Group PI (Project Level): WANG Hai, SGD50,040

Deep Learning Dynamic Demand Estimation and Pricing for Two-Sided Platform.2017-2018., -, Didi Chuxing Co-PI (Project Level): WANG Hai, USD15,000

Optimal Control of Medical Treatment using Predictive Information in ICUs, SMU Internal Grant, Ministry of Education (MOE) Tier 2 Co-PI (Project Level): WANG Hai

Deploying Mobile Crowdsourcing Emergency Supplies to Improve Emergency Response Times, UofT Climate Positive Energy Team and SMU Office of Research Grant , UofT Climate Positive Energy Team and SMU Office of Research PI (Project Level): WANG Hai, 2025, SGD50,000

Work in Progress

WANG Hai, Ke, J., Li, X., Yang, H., An aggregate matching and pick-up model for mobility-on-demand services, 2022

WANG Hai, Liang, J., Ke, J., Ye, H. and Tang, J., A poisson-based distribution learning framework for short-term prediction of food delivery demand ranges, 2022

WANG Hai, Sun, H., Bake a bigger cake when compete: Driver referral in crowd-sourcing platforms, 2022

WANG Hai, Hao, H., Zhang, P.Y., Odoni, A., BHH theorem through a big data lens: TSP approximation for assessing urban transportation efficiency, 2022

WANG Hai, He, Y., Luo, Q. and Zheng, Z., Estimating patient health transition from data censored by treatment-effect-based policy, 2022

WANG Hai, Lu, T., Zhang, Y., Wu, Y., Sun, Y., Dong, J. and Huang, W., Last digit tendency: Lucky number and psychological rounding in mobile transactions, 2022

WANG Hai, Lyu, G., Cheung, W., Teo, C., Multi-objective stochastic optimization: A case of real-time matching in ride-sourcing markets, 2022

WANG Hai, Cheung, W., Lyu, G., Teo, C., Online planning with offline simulation, 2022

WANG Hai, Yang, J. and Lau, H., Optimization of customer service area and driver dispatch area for on-demand food delivery, 2022

WANG Hai, Jin, J., Optimization of ride-sharing from public transportation hub, 2022

WANG Hai, Huang, Y., Lu, T., Lu, X., Promise or peril? When human efficacy meets with AI efficacy augmentation, 2022

WANG Hai, Wu, G., Zhang, P.Y., Rating and client satisfaction prediction in online labor markets: Models and implications, 2022

WANG Hai, He, Y., Luo, Q., Zheng, Z., Luo, H. and Ooi, O., Real-time estimated SOFA score with intervals: Improved risk monitoring with estimated uncertainty in health condition for patients in ICU, 2022

WANG Hai, He, J., Ni, T, Teo, C., Reducing recommendation inequality via stable matching with random

preferences, 2022

WANG Hai, Wang, Z., Short-term repositioning for empty vehicles in ride-sharing, 2022

WANG Hai, Bahrami, S., Nourinejad, M., Yin, Y., The three-sided market of on-demand delivery, 2022

WANG Hai, Guo, X., Haupt, A., Qadri, R. and Zhao, J., Understanding multi-homing and switching by platform drivers, 2022

WANG Hai, Zeng, W., Yang, H, Urban drone delivery network design with privacy protection, 2022

WANG Hai, Chen, H., When a platform competes with third-party sellers in networked markets: A revenue management perspective, 2022

WANG Hai, G. Lyu, W. Cheung, C. Teo, Non-Stationary Stochastic Multi-Objective Optimization: An Online Compromise Solution, 2018

WANG Hai, Jintao Ke; Hai Yang; Xinwei Li; Jieping Ye, Pricing, shareability, and mode choices in a ride-sourcing market, 2018

WANG Hai, Hai Yang, E-hailing Ride-sourcing Systems: A Framework and Review, 2018

WANG Hai, G. Lyu, W. Cheung, C. Teo, Multi-Objective Online Ride-Matching, 2018

WANG Hai, Jiangang JIN, Qiang MENG, Feeder Vessel Routing and Synchronization at a Congested Transshipment Port: A Column Generation Based Approach, 2018

WANG Hai, Hao SUN, Zhixi WAN, Flexible Labor Supply Behaviour on Ride-sharing Platforms, 2018

WANG Hai, Ye LUO, Identifying and Computing the Exact Core-determining Class, 2018

WANG Hai, Yiwei CHEN, Why Are Fairness Concerns So Important? Lessons from Pricing a Shared Last-Mile Transportation System, 2018

TEACHING

Courses Taught

Singapore Management University

Undergraduate Programmes :

- Modeling & Data Analytics
- Smart-City Operations Research
- Spreadsheet Modeling and Analytics

Postgraduate Research Programmes :

- Dissertation
- Empirical Research Project 3
- Introductory Research Project

Non-SMU Programmes :

- Capstone Project for M.S. in Business Analytics and Information Systems , Masters, Carnegie Mellon University

THESES AND DISSERTATIONS

Theses and Dissertations Assessed

Singapore Management University

Committee Member, "Proactive and Reactive Strategies to Handle Surges in Urban Crowds", Dissertation by DU JIALI, PhD in Information Systems, Singapore Management University, 2017

OTHER ACADEMIC AND PROFESSIONAL ACTIVITIES

Presentation and Talks

Presentations

Pricing for a last mile transportation system, (08 Jan 2017). *TRB 2017 Annual Meeting*, Washington DC. United States of America

Matching for a stochastic online vehicle sharing system, (13 Nov 2016). *INFORMS Annual Meeting 2016, November 13-16*, Nashville, TN, USA. United States of America

Core Determining Class Problem: Construction, Approximation and Inference, (01 Nov 2015). *INFORMS 2015 Annual Meeting, Philadelphia*, Philadelphia, USA. United States of America

Design and Operation of a Last Mile Transportation System, (09 Nov 2014). *INFORMS 2014 Annual Meeting, San Francisco*, San Francisco. United States of America

Last Mile Transportation System: Performance Evaluation and Operation Control, (06 Oct 2013). *INFORMS 2013 Annual Meeting, Minneapolis*, Minneapolis. United States of America

EXTERNAL SERVICE – PROFESSIONAL

Editor Associate Editor, IISE Transactions, 2025 - Present

Co-Chair , INFORMS TSL First Data-Driven Research Challenge, 2024 - Present

Secretary, INFORMS Transportation Science and Logistics (TSL), 2024 - Present

Chairperson, INFORMS TSL Dissertation Award, 2024 - Present

Committee Member, INFORMS TSL Third Triennial Conference, INFORMS (Institute for Operations Research and the Management Sciences), 2023

Committee Member, The 13th POMS-HK International Conference, POMS HK Chapter, 2023

Committee Member, Winter Simulation Conference 2022, INFORMS (Institute for Operations Research and the Management Sciences), 2022

Session Chair, Winter Simulation Conference 2022, INFORMS (Institute for Operations Research and the Management Sciences), 2022

Session Chair, INFORMS 2022 Annual Meeting, INFORMS (Institute for Operations Research and the Management Sciences), 2022

Committee Member, The 12th POMS-HK International Conference, POMS HK Chapter, 2022
 Committee Member, The 9th INFORMS TSL Workshop, Ahmedabad, India, 2021
 Session Chair, INFORMS 2021 Annual Meeting , Anaheim, California, USA, 2021
 Session Chair, IFORS 2021 Conference, Seoul, Korea, 2021
 Session Chair, The 13th CSAMSE Conference, Shanghai, China, 2021
 Research Collaboration, Meituan, 2021 - Present
 Research Collaboration, Tencent, 2021 - Present
 Research Collaboration, MilkRun, 2021 - Present
 Associate Editor, Transportation Service, 2021 - Present
 Session Chair, INFORMS 2020 Annual Meeting, National Harbor, Maryland, USA, 2020
 Research Collaboration, Upwork, 2020 - Present
 Research Collaboration, Candibell , 2020 - Present
 Research Collaboration, QL2, 2020
 Research Collaboration, PwC, 2020
 Committee Member, INFORMS TSL Second Triennial Conference, Arlington, Virginia, USA, 2020
 Session Chair, The 11th POMS-HK International Conference, Hong Kong, China, 2020
 Committee Member, The 11th POMS-HK International Conference, Hong Kong, China, 2020
 Guest Editor, Service Science , 2020 - Present
 Research Collaboration, Allies for Children, 2019 - Present
 Session Chair, INFORMS 2019 Annual Meeting, Seattle, Washington, USA, 2019
 Committee Member, The 10th POMS-HK International Conference, Hong Kong, China, 2019
 Session Chair, The 10th POMS-HK International Conference, Hong Kong, 2019
 Reviewer Journal Article, Information Systems Research, 2018 - Present
 Session Chair, INFORMS 2018 Annual Meeting, 2018
 Reviewer Journal Article, Transportation Research Part A: Policy and Practice, 2018 - Present
 Reviewer Journal Article, Transportmetrica A: Transport Science, 2018 - Present
 Reviewer Journal Article, Production and Operations Management, 2018 - Present
 Reviewer Journal Article, Transportation Research Part C: Emerging Technologies, 2018 - Present
 Reviewer Journal Article, Transportation Science, 2018 - Present
 Reviewer Conference Paper, AAAI Conference on Artificial Intelligence, 2018 - Present
 Session Chair, INFORMS 2018 Annual Meeting, Phoenix, Arizona, 2018 - Present
 Reviewer Journal Article, IEEE Transactions on Intelligent Transportation Systems, 2018 - Present
 Reviewer Journal Article, Journal of Economics and Management Strategy, 2018 - Present
 Reviewer Journal Article, Manufacturing and Service Operations Management, 2018 - Present
 Reviewer Journal Article, Public Transport, 2018 - Present
 Editor Senior Editor, Guest Editor, Transportation Research Part B: Methodological, 2018 - Present

Reviewer Journal Article, Journal of Economics and Management Strategy, 2018 - Present
 Reviewer Grant Proposal, Hong Kong Research Grants Council, 2018 - Present
 Session Chair, 6th INFORMS TSL Workshop, 2018
 Research Collaboration, National University Hospital , 2017 - Present
 Research Collaboration, Didi Chuxing, 2017 - 2019
 Referee for Academic Organisation, Netherlands Organisation for Scientific Research, 2017 - Present
 Reviewer Ad Hoc Reviewer, POMS-China Best Student Paper Competition, 2017 - Present
 Reviewer Ad Hoc Reviewer, POMS-HK Best Student Paper Competition, 2017 - Present
 Session Chair, INFORMS 2016 Annual Meeting, 2016 - Present
 Research Collaboration, Fujitsu, 2016 - 2018
 Reviewer Journal Article, Transport Reviews, 2016 - Present
 Reviewer Journal Article, Journal of Public Transportation, 2016 - Present
 Reviewer Conference Paper, IEEE Intelligent Vehicles Symposium, 2016 - Present
 Reviewer Journal Article, International Journal of Sustainable Transportation, 2016 - Present
 Reviewer Journal Article, European Journal of Operational Research, 2016 - Present
 Reviewer Journal Article, International Journal of Industrial Organization, 2016 - Present
 Reviewer Journal Article, Computers and Operations Research, 2016 - Present
 Reviewer Journal Article, INFORMS Journal on Optimization, 2016 - Present
 Reviewer Journal Article, Mathematical Problems in Engineering, 2016 - Present
 Reviewer Journal Article, Journal of Retailing and Consumer Services, 2016 - Present
 Reviewer Conference Paper, INFORMS TSL Triennial Conference, 2016 - Present
 Reviewer Journal Article, IEEE Access, 2016 - Present
 Reviewer Journal Article, Frontiers in Future Transportation, 2016 - Present
 Reviewer Journal Article, Service Science , 2016 - Present
 Reviewer Journal Article, Journal of Civil Engineering and Management, 2016 - Present
 Reviewer Journal Article, Journal of Advanced Transportation, 2016 - Present
 Reviewer Journal Article, Transport Policy, 2016 - Present
 Reviewer Journal Article, Complexity, 2016 - Present
 Reviewer Conference Paper, ISTTT Conference, 2016 - Present
 Reviewer Journal Article, Transportation, 2016 - Present
 Reviewer Conference Paper, Transportation Research Board Annual Meeting, 2016 - Present
 Reviewer Journal Article, Sustainable Cities and Society, 2016 - Present
 Reviewer Journal Article, IET Energy Systems Integration, 2016 - Present
 Reviewer Journal Article, IISE Transactions, 2016 - Present
 Reviewer Journal Article, Transportmetrica B: Transport Dynamics, 2016 - Present
 Reviewer Journal Article, The Open Civil Engineering Journal, 2016 - Present

Reviewer Journal Article, Journal of Transport and Land Use, 2016 - Present
Reviewer Journal Article, Transportation Research Part D: Transport and Environment, 2016 - Present
Reviewer Journal Article, INFORMS Journal on Computing, 2016 - Present
Reviewer Journal Article, International Journal of Production Economics, 2016 - Present
Reviewer Journal Article, Behaviour and Information Technology, 2016 - Present
Reviewer Journal Article, Simulation Modelling Practice and Theory, 2016 - Present
Research Collaboration, Comfort Taxi, 2015 - 2017
Research Collaboration, Jurong Port, 2015 - 2018
Reviewer Journal Article, Transportation Research Part E: Logistics and Transportation Review, 2015 - Present
Reviewer Journal Article, Naval Research Logistics, 2015 - Present
Reviewer Journal Article, IEEE Transactions on Automation Science and Engineering, 2015 - Present
Reviewer Journal Article, Omega: The International Journal of Management Science: Public Transport, 2015 - Present
Reviewer Journal Article, Transportation Research Record, 2015 - Present
Reviewer Journal Article, Management Science, 2015 - Present
Reviewer Journal Article, Networks and Spatial Economics, 2015 - Present
Reviewer Journal Article, Transportation Research Part B: Methodological, 2015 - Present
Reviewer Journal Article, EURO Journal on Transportation and Logistics, 2015 - Present
Reviewer Journal Article, Computer and Industrial Engineering, 2015 - Present
Research Collaboration, Land Transport Authority, 2015 - 2017
Session Chair, INFORMS 2014 Annual Meeting, 2014 - Present
Member, TSL (Transportation Science and Logistics Society), 2012 - Present
Member, AEA (American Economic Association), 2012 - Present
Member, INFORMS (Institute for Operations Research and the Management Sciences), 2012 - Present
Member, TRB (Transportation Research Board), 2012 - Present