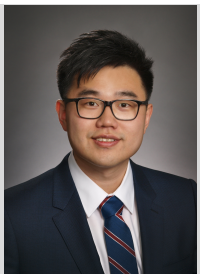
JIA HU

Curriculum Vitae

Address: College of Transportation Engineering, Tongji University, No.4800 Cao'an Road, Shanghai, China, 201804
Tel: +86-13588159138
Email: hujia@tongji.edu.cn



Educational Background

2010	B.S.	Zhejiang University	Civil Engineering
2011	M.E.	North Carolina State University	Civil and Environmental Engineering
2014	Ph.D.	University of Virginia	Civil and Environmental Engineering

Appointments

2019-Present	ZhongTe Distinguished Chair in Cooperative Automation, Professor	College of Transportation Engineering, Tongji University, Shanghai, China
2018-2019	"Hundred Talents Program" Professor	College of Transportation Engineering, Tongji University, Shanghai, China
2014-2017	Research Associate	Federal Highway Administration, Washington, D.C., USA
Feb, 2011-Aug, 2011	Transportation Research Intern	Vanasse Hangen Brustlin, Inc, Raleigh, North Carolina, USA

Academic Affiliations

• IEEE Transaction on Intelligent Transportation Systems	Associate Editor
• IEEE Transaction on Intelligent Vehicles	Associate Editor
• IEEE Open Journal on Intelligent Transportation Systems	Associate Editor
• ASCE's Journal of Transportation Engineering, Part A: Systems	Associate Editor
• Automotive Innovation	Associate Editor
• Journal of Intelligent Transportation Systems	Assistant Editor
• Transportation Research Record	Handling Editor
• Transportation Research Part C: Emerging Technologies	Editorial Board Member
• IEEE International Conference on Vehicular Electronics and Safety	Associate Editor
• IEEE Forum on Integrated and Sustainable Transportation Systems	Associate Editor
• IEEE Intelligent Vehicles Symposium	Associate Editor
• Transportation Research Part C: Emerging Technologies	Guest Associate Editor
• Journal of Sensors	Guest Associate Editor
• Journal of Intelligent Transportation Systems	Guest Associate Editor
• Communications in Transportation Research	Editorial Board Member
• International Journal of Transportation	Editorial Board Member
• COTA conference International Conference of Transportation Professionals	Area Editor
• World Transport Convention Vehicle Automation and Connectivity Committee	Chair
• Automated Vehicle Symposium Energy Breakout Session Organizing Committee	Committee Member
• Transportation Research Board Freeway Operation Standing Committee	Committee Member
• Transportation Research Board Vehicle Highway Automation Standing	Committee Member

Committee	
• Transportation Research Board Signal Simulation Subcommittee	Committee Member
• IEEE Technical Committee on Internet of Thing in ITS	Committee Member
• SAE Shared and Digital Mobility Committee	Committee Member
• ASCE Advanced Technologies Committee	Committee Member
• ASCE Sustainability and Environment Committee	Committee Member
• Chinese Association for Artificial Intelligence; Standing Committee on Intelligent Driving	Committee Member
• China Highway & Transportation Society Vehicle-Highway Automation	Committee Member
• Chinese Automation Association Predictive Control Committee	Committee Member
• Shanghai Highway and Transportation Society Standing Committee on Intelligent Transportation Systems	Committee Member
• International Conference of Traffic and Transportation Engineering	Committee Member
• Institute of Electrical and Electronics Engineers (IEEE)	Member
• American Society of Civil Engineering (ASCE)	Member

Publications

1. Wang, Haoran, Yongwei Feng, Yonglin Tian, Ziran Wang, **Jia Hu***, and Masayoshi Tomizuka. "Towards the next level of vehicle automation through cooperative driving: A roadmap from planning and control perspective." IEEE Transactions on Intelligent Vehicles (2024).
2. **Hu, Jia**, Shuoyuan Li, Haoran Wang, Ziran Wang, and Matthew J. Barth. "Eco-approach at an isolated actuated signalized intersection: Aware of the passing time window." Journal of Cleaner Production 435 (2024): 140493.
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4. Guan, Yanchen, Haicheng Liao, Zhenning Li, **Jia Hu***, Runze Yuan, Yunjian Li, Guohui Zhang, Chengzhong Xu. " World Models for Autonomous Driving: An Initial Survey." *IEEE Transactions on Intelligent Vehicles* (2024).
5. **Hu, Jia**, Xuerun Yan, Guan Wang, Meiting Tu, Xianhong Zhang, Hong Wang, Dominique Gruyer, Jintao Lai. "A Simulation Platform for Truck Platooning Evaluation in an Interactive Traffic Environment." IEEE Transactions on Intelligent Transportation Systems, accepted.DOI: 10.1109/TITS.2024.3388161.
6. Wang, Haoran, Wei Hao, Jaehyun So, Xiao Xiao, Zhijun Chen, and **Jia Hu***. "A Faster Cooperative Lane Change Controller Enabled by Formulating in Spatial Domain." *IEEE Transactions on Intelligent Vehicles* (2023).
7. Zhang, Zihan, Xuerun Yan, Hong Wang, Chuan Ding, Lu Xiong, and **Jia Hu***. "No more road bullying: an integrated behavioral and motion planner with proactive right-of-way acquisition capability." Transportation research part C: emerging technologies 156 (2023): 104363.
8. Zhuoren Li, **Jia Hu**, Bo Leng, Lu Xiong, Zhiqiang Fu. "An Integrated of Decision Making and Motion Planning Framework for Enhanced Oscillation-Free Capability." IEEE Transactions on Intelligent Transportation Systems, accepted.
9. Younghoon Seo, Jihyeok Park, Gyungtaek Oh, Hyungjoo Kim, **Jia Hu**, and Jaehyun (Jason) So. "Text Classification Modeling Approach on Imbalanced-Unstructured Traffic Accident Descriptions Data." IEEE Open Journal of Intelligent Transportation Systems, accepted.
10. Zhou, Qishen, Bin Zhou, Simon Hu, Claudio Roncoli, Yibing Wang, **Jia Hu**, Guangquan Lu. "A safety-

enhanced eco-driving strategy for connected and autonomous vehicles: A hierarchical and distributed framework." Transportation Research Part C: Emerging Technologies, accepted.

11. Li, Xin, Wanying Liu, Jingyuan Qiao, Yanhao Li, and **Jia Hu***. "An Enhanced Semi-Flexible Transit Service with Introducing Meeting Points." Networks and Spatial Economics (2023): 1-41.
12. Zhang, Zihan, Haobing Liu, Mingyue Lei, Xuerun Yan, Miao Wang, and **Jia Hu***. "Review on the impacts of cooperative automated driving on transportation and environment." Transportation Research Part D: Transport and Environment 115 (2023): 103607.
13. **Hu, Jia**, Shichao Sun, Jintao Lai, Song Wang, Zhijun Chen, and Tangzhi Liu. "CACC Simulation Platform Designed for Urban Scenes." IEEE Transactions on Intelligent Vehicles (2023).
14. Long, Keke, **Jia Hu***, Zhibo Gao, Chengyuan Ma, and Xiaoguang Yang. "Optimal Controller for a Roundabout with Cooperative Optimization." Journal of Transportation Engineering, Part A: Systems 149, no. 1 (2023): 04022118.
15. **Hu, Jia**, Mingyue Lei, Haoran Wang, Miao Wang, Chuan Ding, and Zihan Zhang. "Lane-Level Navigation Based Eco-Approach." IEEE Transactions on Intelligent Vehicles (2023).
16. Wang, Fei-Yue, **Jia Hu**, and Jintao Lai. "Testing intelligence: Accelerating the verification and validation of intelligent vehicles." IEEE Transactions on Intelligent Vehicles (2023).
17. Long, Keke, Zhibo Gao, Zehao Jiang, Chengyuan Ma, **Jia Hu***, and Xiaoguang Yang. "Optimization based trajectory planner for multilane roundabouts with connected automation." Journal of Intelligent Transportation Systems 27.3 (2023): 411-422.
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19. Wang, Haoran, Xiao Wang, Xuan Li, Xingtang Wu, **Jia Hu***, Yuanyuan Chen, Zhongmin Liu, and Ying Li. "A Pathway Forward: The Evolution of Intelligent Vehicles Research on IEEE T-IV." IEEE Transactions on Intelligent Vehicles 7, no. 4 (2022): 918-928.
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21. Wang, Haoran, **Jia Hu**, Yongwei Feng, and Xin Li. "Optimal Control Based Highway-Pilot Motion Planner with Stochastic Traffic Consideration." IEEE Intelligent Transportation Systems Magazine (2022).
22. **Hu, Jia**, Tian Xu, Xuerun Yan, and Ruicong Zhang. "Validation on safety of the intended functionality of automated vehicles: Concept development." SAE International Journal of Connected and Automated Vehicles 6, no. 12-06-01-0006 (2022).
23. Wang, Haoran, Xin Li, Xianhong Zhang, **Jia Hu***, Xuerun Yan, and Yongwei Feng. "Cut through traffic like a snake: cooperative adaptive cruise control with successive platoon lane-change capability." Journal of Intelligent Transportation Systems (2022): 1-22.
24. Wang, Haoran, Jintao Lai, Xianhong Zhang, Yang Zhou, Shen Li, and **Jia Hu***. "Make space to change lane: A cooperative adaptive cruise control lane change controller." Transportation Research Part C: Emerging Technologies 143 (2022): 103847.
25. Sun, Bingrong, Lin Gong, Jisup Shim, Kitae Jang, B. Brian Park, Hongning Wang, and **Jia Hu***, and Xiaoguang Yang. " A Human-Centric Machine Learning Based Personalized Route Choice Prediction in Navigation Systems." Journal of Intelligent Transportation Systems, Accepted.
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28. Chen, Zheng, Byungkyu Brian Park, and **Jia Hu***. "Design and Evaluation of a Human-in-the-Loop Connected Cruise Control." IEEE Transactions on Vehicular Technology 71, no. 8 (2022): 8104-8115. DOI: 10.1109/TVT.2022.3172507.
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30. Zhuang, Yifan, Ziyuan Pu, **Jia Hu**, and Yinhai Wang. "Illumination and Temperature-Aware Multispectral Networks for Edge-Computing-Enabled Pedestrian Detection." IEEE Transactions on Network Science and Engineering (2021).
31. Bai, Yu, Yu Zhang, and **Jia Hu***. "A motion planner enabling cooperative lane changing: Reducing congestion under partially connected and automated environment." Journal of Intelligent Transportation Systems 25, no. 5 (2021): 469-481.
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33. Yunyi Liang, Ning Ma, Xin Li, **Jia Hu***. "Stochastic Road Side Unit Location Optimization for Information Propagation in the Internet of Vehicles." IEEE Internet of Things Journal. DOI: 10.1109/JIOT.2021.3065411.
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38. Yu Zhang, Yu Bai, **Jia Hu**, Meng Wang*, "Control Design, Stability Analysis, and Traffic Flow Implications for Cooperative Adaptive Cruise Control Systems with Compensation of Communication Delay". Transportation Research Record: Journal of the Transportation Research Board 0 (0): 1-15. Doi: 10.1177/0361198120918873.
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46. Jiaqi Ma, **Jia Hu***, Ed Leslie, Fang Zhou, Peter Huang, Joe Bared. "An Eco-Drive Experiment on Rolling Terrains for Fuel Consumption Optimization with Connected Automated Vehicles", Transportation Research Part C: Emerging Technologies, 100 (2019): 125-141.
47. Weiyang Wang, **Jia Hu**, Yuxiong Ji, Yuchuan Du. "Improving Fuel Efficiency of Connected and Automated Transit Buses on Signalized Corridors", IET Intelligent Transport Systems, 13, no. 5 (2019): 870-879.
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54. Huifu Jiang, **Jia Hu***, Shi An, Meng Wang, Byungkyu Brian Park. "Eco Approach at an Isolated Signalized Intersection under Partially Connected and Automated Vehicle Environment". Transportation Research Part C: Emerging Technologies, 79:290-307, June 2017, DOI: 10.1016/j.trc.2017.04.001.
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57. Seongah Hong, **Jia Hu***, Byungkyu Brian Park. "Exploring Environmentally Sustainable Traffic Signal Warrant for Planning Application". International Journal of Sustainable Transportation, July 2017. DOI: 10.1080/15568318.2016.1276652.

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62. **Jia Hu**, Yunli Shao, Zongxuan Sun*, Meng Wang, Joe Bared, Peter Huang. "Integrated Optimal Eco-Driving On Rolling Terrain for Hybrid Electric Vehicle with Vehicle-Infrastructure Communication." Transportation Research Part C: Emerging Technologies, 68:228-244, July 2016. DOI: 10.1016/j.trc. 2016. 04.009.
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64. Jiaqi Ma, **Jia Hu*,** David K. Hale, Joe Bared. "Dynamic Hard Shoulder Running for Traffic Incident Management," Transportation Research Record: Journal of the Transportation Research Board 2554 (2016): 120-128.
65. **Jia Hu*,** Michael Fontaine, Jiaqi Ma. "Quality of Private Sector Travel Time Data on Arterials." ASCE Journal of Transportation Engineering, Vol 142, Issue 4, April 2016, 10.1061/(ASCE)TE.1943-5436.0000815, 04016010.
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Editorials

1. Zhengbing He, **Jia Hu**, B. Brian Park & Michael W. Levin, "Vehicle sensor data-based transportation research: Modeling, analysis, and management", Journal of Intelligent Transportation Systems, 2019,23:2, 99-102, DOI: 10.1080/15472450.2019.1586335.
2. Chuan Ding, **Jia Hu**, and Xiaolei Ma,"Sensors in Connected Vehicle Technology: How Sensors Play a Critical Role", Journal of Sensors,Volume2017,ArticleID8241932,2 pages, https://doi.org/ 10.1155 / 2017/ 8241932

Conference Presentations

1. Towards Human-like Trajectory Prediction for Autonomous Driving: A Cognitive-inspired Lightweight Model, TRC-30 Conference, Heraklion, Crete, Greece, September 2-4, 2024
2. Interaction-aware decision-making enabling the autonomous vehicle to proactively acquire the right-of-way. IEEE Intelligent Transportation Systems Conference, Bilbao, Spain, September 24-28, 2023.
3. Enabling Eco-Approach Where Signal Timing is Unknown. IEEE Intelligent Transportation Systems Conference, Bilbao, Spain, September 24-28, 2023.
4. Infrastructure-Enabled Traffic Speed Harmonization Under Partially Connected Environment. IEEE Intelligent Transportation Systems Conference, Bilbao, Spain, September 24-28, 2023.
5. Copula-Based Interactive Behavior Modeling for Naturalistic Test Scenarios generation. IEEE Intelligent Transportation Systems Conference, Bilbao, Spain, September 24-28, 2023.
6. Digitization of Traffic Laws: Methodologies and Usage for Monitoring Driving Compliance. IEEE Intelligent Transportation Systems Conference, Bilbao, Spain, September 24-28, 2023.
7. Eco-Cooperative and Adaptive Cruise Control for Enhanced Fuel Efficiency on Rolling Terrain. IEEE Intelligent Transportation Systems Conference, Bilbao, Spain, September 24-28, 2023.
8. Enhanced Infrastructure-Enabled-Perception System Based on Roadside LiDAR. IEEE Intelligent Transportation Systems Conference, Bilbao, Spain, September 24-28, 2023.
9. A critical scenario filter to accelerate testing for automated vehicles. IEEE Intelligent Transportation Systems Conference, Bilbao, Spain, September 24-28, 2023.
10. Spatial Risk Distribution: A quantitative approach for assessing hazards from space. IEEE Intelligent Transportation Systems Conference, Bilbao, Spain, September 24-28, 2023.
11. A Multi-phase-adaptable Bus Lane Sharing Strategy for Vehicles with Various Turning Intentions at Intersections. IEEE Intelligent Transportation Systems Conference, Bilbao, Spain, September 24-28, 2023.
12. A dispatching method for automated container terminals: What is next when precise execution is available? IEEE Intelligent Transportation Systems Conference, Bilbao, Spain, September 24-28, 2023.
13. Method for evaluating controllability for hand-off highway pilot function: Field test. Transportation Research Board 102th Annual Meeting, Washington, D.C., January 8-12, 2023.
14. Mirroring the Target Position: An Optimal-Control-Based Parking Motion Planner with Computational Efficiency. Transportation Research Board 102th Annual Meeting, Washington, D.C., January 8-12, 2023.

15. A truck platooning control method against heterogeneous loads: Field test. Transportation Research Board 102th Annual Meeting, Washington, D.C., January 8-12, 2023.
16. Stochastic Driver Model Based Controller For Human-Lead Vehicle Platooning. Transportation Research Board 102th Annual Meeting, Washington, D.C., January 8-12, 2023.
17. CACC simulation platform designed for urban scenes. IEEE Intelligent Transportation Systems Conference, Macau, China, October 8-12, 2022.
18. Making Space and Changing Lane Simultaneously: An Efficiency Enhanced Cooperative Lane Change Controller. IEEE Intelligent Transportation Systems Conference, Macau, China, October 8-12, 2022.
19. Lane-level Navigation Based Eco-approach. IEEE Intelligent Transportation Systems Conference, Macau, China, October 8-12, 2022.
20. A Simulation Platform for Truck Platooning Evaluation. IEEE Intelligent Transportation Systems Conference, Macau, China, October 8-12, 2022.
21. Flow Regulation for Partially Connected and Automated Traffic: An Optimal Control Approach. IEEE Intelligent Transportation Systems Conference, Macau, China, October 8-12, 2022.
22. Speed Harmonization for Partially Connected and Automated Traffic. Transportation Research Board 101th Annual Meeting, Washington, D.C., January 9-13, 2022.
23. Distributed Lane Change Controller for Cooperative Adaptive Cruise Control. Transportation Research Board 101th Annual Meeting, Washington, D.C., January 9-13, 2022.
24. Wang, Haoran, Jintao Lai, and Jia Hu. "Trajectory planner for platoon lane change." In 2021 IEEE Intelligent Vehicles Symposium Workshops (IV Workshops), pp. 98-101. IEEE, 2021.
25. Hu, Jia, Yongwei Feng, Xin Li, and Haoran Wang. "A Model Predictive Control Based Path Tracker in Mixed-Domain." In 2021 IEEE Intelligent Vehicles Symposium (IV), pp. 1255-1260. IEEE, 2021.
26. Modeling Maximum Throughput of Freeway Merging Area with Partially Connected Automated Traffic. IEEE Intelligent Transportation Systems Conference (ITSC 2021), Indianapolis, IN, USA, September 19-22, 2021.
27. An adaptive cooperative adaptive cruise control against varying vehicle loads. IEEE Intelligent Vehicles Symposium, Nagoya, Japan, July 11-15, 2021.
28. Make Space to Change Lane: A Cooperative Adaptive Cruise Control Lane Change Controller. IEEE Intelligent Vehicles Symposium, Nagoya, Japan, July 11-15, 2021.
29. A Model Predictive Control Based Pathing Tracker in Mixed-Domain. IEEE Intelligent Vehicles Symposium, Nagoya, Japan, July 11-15, 2021.
30. Speed Harmonization for partially connected and automated traffic. IEEE Intelligent Vehicles Symposium, Nagoya, Japan, July 11-15, 2021.
31. A Roundabout Control for Connected and Automated Traffic. COTA International Conference of Transportation Professionals, Xi'an, China, July 2-5, 2021.
32. A Cyber-Attack Detection in Vehicle-to-Infrastructure Communication Based On LSTM Network. COTA International Conference of Transportation Professionals, Xi'an, China, July 2-5, 2021.
33. Assessing Benefits of Quasi-CACC Applications under Partially Connected Vehicle Environment and Heterogenous Vehicle Dynamics. Transportation Research Board 100th Annual Meeting, Virtual Conference, January, 2021.
34. Lane Change Like a Snake: Cooperative Adaptive Cruise Control with Platoon Lane Change Capability. IEEE Intelligent Vehicles Symposium, Las Vegas, USA, October 20-23, 2020.
35. A Generic Simulation Platform for Cooperative Adaptive Cruise Control under Partially Connected and Automated Environment. IEEE Intelligent Vehicles Symposium, Las Vegas, USA, October 20-23, 2020.

36. String-Stable Platooning Control Subject to Heterogeneous and Stochastic Delays. IEEE Intelligent Transportation Systems Conference, Rhodes, Greece, September 20-23, 2020.
37. Cooperative Adaptive Cruise Control: A Field Experiment. IEEE Intelligent Transportation Systems Conference, Rhodes, Greece, September 20-23, 2020.
38. Trajectory Based Active Traffic Management with Cooperative Automation. IEEE Intelligent Transportation Systems Conference, Rhodes, Greece, September 20-23, 2020.
39. A Generic Simulation Platform for Cooperative Adaptive Cruise Control under Partially Connected and Automated Environment. Transportation Research Board 99th Annual Meeting, Washington, D.C., January 12-16, 2020.
40. MT-LinAdapt: A Human-centric Machine Learning based Individual Drivers' Route Choice Model for Personalized Route Recommendation. Transportation Research Board 99th Annual Meeting, Washington, D.C., January 12-16, 2020.
41. Chang-Hu's Optimal Motion Planning Framework for Cooperative Automation: Mathematical Formulation, Solution, and Applications. Transportation Research Board 99th Annual Meeting, Washington, D.C., January 12-16, 2020.
42. Data-Driven Road Side Unit Location Optimization for Information Propagation under Stochastic Traffic Condition. Transportation Research Board 99th Annual Meeting, Washington, D.C., January 12-16, 2020.
43. Cut Through Traffic to Catch Green Light: Eco Approach with Overtake Capability. Transportation Research Board 99th Annual Meeting, Washington, D.C., January 12-16, 2020.
44. Modeling System Dynamics for Mixed Traffic with Partially Connected and Automated Vehicles. Transportation Research Board 99th Annual Meeting, Washington, D.C., January 12-16, 2020.
45. Human-in-the-Platoon Cooperative Adaptive Cruise Control. Transportation Research Board 99th Annual Meeting, Washington, D.C., January 12-16, 2020.
46. CACC Systems with Compensation of Communication Delay: Control Design, Stability Analysis and Traffic Flow Implications. Transportation Research Board 99th Annual Meeting, Washington, D.C., January 12-16, 2020.
47. Modeling System Dynamics of Mixed Traffic with Partially Connected and Automated Vehicles. IEEE Intelligent Transportation Systems Conference, Auckland, New Zealand, October 27-30, 2019.
48. Optimal Control Based CACC: Problem Formulation, Solution, and Stability Analysis. IEEE Intelligent Vehicles Symposium, Paris, France, June 9-12, 2019.
49. Vehicle Trajectory Based Real-time Safety Analysis. Transportation Research Board 98th Annual Meeting, Washington, D.C., January 13-17, 2019.
50. Complete Link Flow Inference Oriented Roadside Unit Location. Transportation Research Board 98th Annual Meeting, Washington, D.C., January 13-17, 2019.
51. Motion Planning Algorithm under Partially Connected and Automated Environment. Transportation Research Board 98th Annual Meeting, Washington, D.C., January 13-17, 2019.
52. Cooperative Weaving for Connected and Automated Vehicles to Mitigate Traffic Oscillation. Transportation Research Board 98th Annual Meeting, Washington, D.C., January 13-17, 2019.
53. Platoon-Scale Cooperative Adaptive Cruise Control: Communication Topology and Control Logic. Transportation Research Board 98th Annual Meeting, Washington, D.C., January 13-17, 2019.
54. Mobility Oriented Motion Planning for Cooperative Lane Changing under Partially Connected and Automated Environment. IEEE ITSC, Hawaii, United States, November 4-7, 2018.
55. Human-in-the-platoon Cooperative Adaptive Cruise Control: Field Experiment, Automated Vehicle Symposium, San Francisco, July 9-12, 2018.

56. Development of a Simulation Platform for Safety Evaluation of Connected and Automated Vehicles. IEEE Intelligent Vehicles, Changshu, China, June 26-29, 2018.
57. An Eco-Drive Experiment on Rolling Terrains for Fuel Consumption Optimization with Connected Automated Vehicles. Transportation Research Board 97th Annual Meeting, Washington, D.C., January 7-11, 2018.
58. A Design of Cooperation Between Traffic Signal and Connected Automated Vehicles. Transportation Research Board 97th Annual Meeting, Washington, D.C., January 7-11, 2018.
59. Characterizing the Impact of Production Adaptive Cruise Control on Traffic Flow: An Investigation. Transportation Research Board 97th Annual Meeting, Washington, D.C., January 7-11, 2018.
60. Cooperative Adaptive Cruise Control Algorithm with Priority Weights Assigned to Downstream Vehicles for Increased Safety. Transportation Research Board 97th Annual Meeting, Washington, D.C., January 7-11, 2018.
61. Reliability-Oriented Transit Signal Priority System. Transportation Research Board 97th Annual Meeting, Washington, D.C., January 7-11, 2018.
62. Revisiting Hit-and-Run Crashes: A Geospatial Modeling Method. Transportation Research Board 97th Annual Meeting, Washington, D.C., January 7-11, 2018.
63. Cooperative Adaptive Cruise Control Algorithm with Priority Weights Assigned to Downstream Vehicles for Increased Safety. Transportation Research Board 97th Annual Meeting, Washington, D.C., January 7-11, 2018.
64. Connected and Automated Driving at a Signalized Intersection – Two Examples of Vehicle-Signal Cooperation, Automated Vehicle Symposium, San Francisco, July 10-14, 2017.
65. Road Test of CAV Eco-ACC on Rolling Terrain, Automated Vehicle Symposium, San Francisco, July 10-14, 2017.
66. Eco-approach at an Isolated Intersection under Partially Connected and Automated Vehicles Environment, World Transport Convention, Beijing China, June 4-6, 2017
67. Development of Agent-Based On-line Adaptive Signal Control (ASC) Framework Using Connected Vehicle (CV) Technology, World Transport Convention, Beijing China, June 4-6, 2017
68. Optimal Lane Sequence Guidance Based on Connected Vehicles, World Transport Convention, Beijing China, June 4-6, 2017
69. Optimization of Multimodal Network System for Environmental Sustainability incorporating Economies of Scale, Transportation Research Board 96th Annual Meeting, Washington, D.C., January 8-12, 2017.
70. Integrated Vehicle and Powertrain Optimization for Passenger Vehicles with Vehicle-Infrastructure Communication, Transportation Research Board 96th Annual Meeting, Washington, D.C., January 8-12, 2017.
71. Responsive Signal Control with Active Connected Vehicles, Transportation Research Board 96th Annual Meeting, Washington, D.C., January 8-12, 2017.
72. Proposed Data-Driven Performance Measures for Comparing and Ranking Traffic Bottlenecks, Transportation Research Board 96th Annual Meeting, Washington, D.C., January 8-12, 2017.
73. Scalable Short-Term Origin-Destination Estimation Approach Based on Modularized Network with Connected-Vehicle Technology, Transportation Research Board 96th Annual Meeting, Washington, D.C., January 8-12, 2017.
74. Transit Signal Priority Accommodating Conflicting Requests Under Connected Vehicles Technology. Transportation Research Board 96th Annual Meeting, Washington, D.C., January 8-12, 2017.
75. Transit Signal Priority Accommodating Conflicting Requests Under Connected Vehicles Technology.

Transportation Research Board Traffic Signal Systems Committee Summer Meeting, Pittsburgh, PA, July 24, 2016.

76. A Cycle-Based Variable Speed Limit Methodology for Improved Freeway Merging. The 23rd ITS World Congress 2016, Melbourne, Australia, Oct 10-14, 2016.
77. Integrated Optimal Eco-Driving on Rolling Terrain for Hybrid Electric Vehicle under Connected Vehicle Context. Transportation Research Board 95th Annual Meeting, Washington, D.C., January 10-14, 2016.
78. Results of Transit Signal Priority Experiment in Connected Vehicle Technology Environment. Transportation Research Board 95th Annual Meeting, Washington, D.C., January 10-14, 2016.
79. Dynamic Hard Shoulder Running for Traffic Incident Management. Transportation Research Board 95th Annual Meeting, Washington, D.C., January 10-14, 2016.
80. Development and Evaluation of Environmentally Sustainable Signal Warrant at Planning Level. Transportation Research Board 95th Annual Meeting, Washington, D.C., January 10-14, 2016.
81. Transit Signal Priority with Connected Vehicle Considering Conflicting Requests. The 22rd ITS World Congress 2015, Bordeaux, France, Oct 5-9, 2015.
82. Validation of Private Sector Data on Arterials. The 22rd ITS World Congress 2015, Bordeaux, France, Oct 5-9, 2015.
83. SPaT and Active Traffic Management Strategies for Oversaturated Signalized Intersection. The 22rd ITS World Congress 2015, Bordeaux, France, Oct 5-9, 2015.
84. Intelligent Transit Signal Priority Resolving Conflicting Requests. Transportation Research Board 94th Annual Meeting, Traffic Signal System Control Simulation Subcommittee Meeting, Washington, D.C., January 11-15, 2015.
85. Intelligent Transit Signal Priority Considering Bus Progression. Transportation Research Board 94th Annual Meeting, Washington, D.C., January 11-15, 2015.
86. Field Evaluations of an Adaptive Traffic Signal Control System Using Private Sector Probe Data. The 21st ITS World Congress 2014, Detroit, MI, September 7-11, 2014
87. A Rationale for Incorporating its Applications' Effect into The HCM Signalized Facilities Analysis. The 21st ITS World Congress 2014, Detroit, MI, September 7-11, 2014.
88. Near-Side Bus Stop with Queue Jumper Lane under Connected Vehicles. The 21st ITS World Congress 2014, Detroit, MI, September 7-11, 2014.
89. Transit Signal Priority with Connected Vehicle Technology, Transportation Research Board 93rd Annual Meeting, Washington, D.C., January 14, 2014.
90. A Cyber Its Framework for Massive Traffic Data Analysis Using Cyber infrastructure, Transportation Research Board 92nd Annual Meeting, Washington, D.C., January 14, 2013.
91. Driving Simulator Evaluation of Effects of Nine Panel and Overflow Combination Specific Service Logo Signs on Driver Performance and Distraction, Transportation Research Board 92nd Annual Meeting, Washington, D.C., January 14, 2013.
92. A Rationale for Incorporating Queue Discharge Flow into Highway Capacity Manual Procedure for Analysis of Freeway Facilities, Transportation Research Board 91st Annual Meeting, Washington, D.C., January 24, 2012.

Moderated Seminars

1. Publication Chair, IEEE Intelligent Vehicles Symposium, Jeju Island, Korea, June 2-5, 2024.
2. Co-Chair: 3rd Special Session on Cooperative Driving in Mixed Traffic, IEEE Intelligent Vehicles

Symposium, Bilbao, Spain, September 24-28, 2023.

3. Chair: 2nd Special Session on Cooperative Driving in Mixed Traffic, IEEE Intelligent Transportation Systems Conference, Macau, China, October 8-12, 2022.
4. Co-Chair: Cooperative Driving in Mixed Traffic, IEEE Intelligent Vehicles Symposium, Nagoya, Japan, July 11-15, 2021.
5. Co-Chair: Ensuring and Validating Safety for Automated Vehicles, IEEE Intelligent Vehicles Symposium, Nagoya, Japan, July 11-15, 2021.
6. Chair: Ensuring and Validating Safety for Automated Vehicles, IEEE Intelligent Vehicles Symposium, Las Vegas, USA, October 20-23, 2020.
7. Presider: Infrastructure-Vehicle Cooperative Automation, Transportation Research Board 99th Annual Meeting, Washington, D.C., January 12-16, 2020.
8. Moderator: The 22nd COTA TRB Winter Symposium, Transportation Research Board, January 13-17, 2019.
9. Chair: Connected and Automated Vehicles Test and Evaluation, IEEE Intelligent Vehicles Symposium, June 26-30, 2018
10. Chair: New Innovations in Intersection Control with Cooperative Automation, Automated Vehicle Symposium, San Francisco, July 9-12, 2018.
11. Chair: Effects of Vehicle Automation on Energy-Usage and Emissions, Automated Vehicle Symposium, San Francisco, July 10-14, 2017.

Research Reports

1. David Hale, Ramanujan Jagannathan, Michalis Xyntarakis, Peng Su, Ximiao Jiang, Jiaqi Ma, **Jia Hu**, and Cory Krause. Traffic Bottlenecks: Identification and Solutions. Report No. FHWA-HRT-16-064, FHWA; U.S. Department of Transportation, 2016.
2. Byungkyu Brian Park, **Jia Hu**, Seongah Hong. Optimization of Multimodal Network System for Environmental Sustainability incorporating Economies of Scale. MATSUTC, 2016.
3. Jia Hu, Young-Jae Lee, Byungkyu Brian Park and Seyedehsan Dadvar. Next Generation Transit Signal Priority with Connected Vehicle Technology. Duns: 0031370150000. EIN: 54-6001805. Research and Innovation Technology Administration (RITA); U.S. Department of Transportation, 2016.
4. Michael D Fontaine, Jiaqi Ma and **Jia Hu**. Evaluation of the Virginia Department of Transportation Adaptive Signal Control Technology Pilot Project, Report No. VCTIR 15-R24, Charlottesville, VA, June 2015.
5. Byungkyu Brian Park and **Jia Hu**. Transit Signal Priority with Connected Vehicle Technology. University of Virginia, Report No. UVA-2012-05, Charlottesville, VA, 2013.

Research Projects

2021/08-2022/02	￥500,000	PI	**QCraft Inc.**, Automated Valet Parking Function Development
2021/07-2021/08	￥932,087	PI	**Bosch Automotive Products Co., Ltd.**, HWA Hands-on Controllability Test
2021/06-2021-12	￥2,830,000	PI	Truck Platooning Lane Change Controller and Evaluation Platform Development
2020/08-2021/04	￥500,000	PI	**Continental**, Decision Making and Motion Planning When Approaching an ETC Tolling Station
2020/07-2021/03	€56,568	PI	**5G Automotive Associate**，A White Paper on Tolling

			Application with C-V2X in China
2020/04-2020/09	￥820,000	PI	**Geely ECARX**, Automated Piloting Decision Making and Control
2019/07-2020/02	￥710,000	PI	**SAIC Motor Co., Ltd.**, Truck Platooning Controller Development and Evaluation
2019/06-2020/06	￥1,200,000	PI	**Bosch Automotive Products Co., Ltd.**, HWA Hands-free Controllability Test
2019/01-2021/12	￥800,000	Investigator	**National Key R&D Program of China**, Development and Evaluation for Cooperative Automation under V2X Environment
2019/01-2021/12	￥230,000	PI	**National Natural Science Foundation of China**, Cooperative Adaptive Cruise Control under Partially Connected and Automated Environment
2018/04-2019/06	￥500,000	Investigator	**SAIC Motor Co., Ltd.**, V2X Based Platooning Controller Development
2018/05-2021/04	￥200,000	PI	**Shanghai Science and Technology Committee,** Automated Vehicle Decision Making under Partially Connected and Automated Environment
2016/10-2017/10	$291,425	PI	**U.S. Department of Transportation,** Development of an Eco-cooperative adaptive cruise control to optimize vehicle performance for environment and mobility benefits, phase III
2016/05-2017/05	$300,000	Co-PI	**U.S. Department of Transportation,** Road test and hardware-in-the-loop simulation test for eco-drive on rolling terrain
2015.10-2016.10	$267,831	PI	**U.S. Department of Transportation,** Development of an Eco-cooperative adaptive cruise control to optimize vehicle performance for environment and mobility benefits, phase II,
2014/04-2016/04	$1,100,000	Investigator	**U.S. Department of Transportation**, Traffic Bottlenecks Identification, Diagnosis, and Innovative Solutions to Local/Systemic Problems
2014/08-2015/08	$267,831	PI	**U.S. Department of Transportation**, Development of an Eco-cooperative adaptive cruise control to optimize vehicle performance for environment and mobility benefits, phase I
2014/11-2016/04	$258,000	PI	**MAUTC (Mid-Atlantic University Transportation Center),** Multimodal Freight distribution to support increased port operations
2013/02-2014/01	$159,368	PI	**MAUTC (Mid-Atlantic University Transportation Center)**, Next generation transit signal priority with Connected Vehicles Technology
2012/06-2013/05	$150,000	PI	**VDOT (Virginia Department of Transportation)**, Transit signal priority with Connected Vehicles
2011/05-2015/05	$205,000	Investigator	**VDOT (Virginia Department of Transportation),** Evaluation of The Virginia Department of Transportation Adaptive Signal Control Technology Pilot Project

2010.6-2015.5	$33,190	Investigator	**NCDOT(North Carolina Department of Transportation),** Driving Simulation Study of Nine-Panel Logo Signs

Reviewers

- Advances in Mechanical Engineering
- ASCE Journal of Transportation Engineering
- IET Intelligent Transport Systems
- Journal of Advanced Transportation
- Journal of Central South University
- Journal of Intelligent Transportation Systems
- Journal of Advanced Transportation
- Journal of Transport and Land Use
- Journal of Traffic and Transportation Engineering
- KSCE Journal of Civil Engineering
- Mathematical Problems in Engineering
- Transportation Research Part F: Psychology and Behavior
- Transportation Research Record: Journal of the Transportation Research Board
- IEEE Intelligent Transportation Systems Magazine
- Transport
- Transportmetrica A: Transport Science
- Transportmetrica B: Transport Dynamics
- Transportation Letters
- Transportation Research Part C: Emerging Technologies
- Transportation Research Part D: Transport and Environment
- IEEE Intelligent Vehicles Symposium (Since 2013)
- IEEE Transaction on Intelligent Transportation Systems
- Eastern Asia Society for Transportation Studies (Since 2017)
- American Control Conference (Since 2016)
- Intelligent Transportation Systems America (Since 2016)
- IEEE International Conference on Intelligent
- Transportation Systems (Since 2015)
- ITS World Congress (Since 2015)

Awards and Honors

2023	Best Paper Award (Short List 10/1689)	IEEE ITSC
2023	Best Student Paper Award （1/375）	TRB Internation Symposium on Freeway and Tollway Operation （TRB-ISFO）
2022	ASCE Outstanding Editor	ASCE JTE Part A
2022	Blue Ribbon Award	U.S. Transportation Research Board
2022	Zhang Si-Ying Outstanding Youth Paper Award (1/1088)	Chinese Control and Decision Conference
2021	Excellence in Creativity	The Li Foundation, Embassy of PRC in the US
2019	Distinguished Professor in Shanghai	Shanghai Municipal Education Commission
2019	Zhong Te Distinguished Chair in Cooperative Automation	Tongji University
2018	Best Paper Award:“Eco-drive Experiment”	U.S. Transportation Research Board
2017	Most Cited Papers	Web of Science
2017	Invited Webinar for USDOT	USDOT
2017	Research Featured in Advances in Engineering	Advances in Engineering
2016	Best Scientific Paper- Americas (1 paper per year)	ITS World Congress
2016	Paper featured by ASCE	ASCE (American Society of Civil Engineers)

2014	National Research Council Associateship Award	U.S. Transportation Research Board
2014	Academic Excellence Award	University of Virginia
2012	Second Place Winner of ITSVA Student Paper Contest	Intelligent Transportation Society of Virginia (U.S.)
2011	Commonwealth Fellowship	Commonwealth Scholarship and Fellowship Plan
2008-2009	Outstanding Senior Thesis	Zhejiang University
2008-2009	First Prize of Excellent Undergraduate Scholarship(5 out of 171)	Zhejiang University
2007-2008	First Prize of Excellent Undergraduate Scholarship (5 out of 171)	Zhejiang University
2007-2008	"Civil Engineering & Architecture & Landscape" Programming Funding	Zhejiang University
2007-2008	Fortis Scholarship	Zhejiang University
2008	Third Prize of Student Research Training Program	Zhejiang University
2006-2007	Second Prize of Excellent Undergraduate Scholarship (9 out of 171)	Zhejiang University
2007	Annual Excellent All-round Student (Won three times:2006-2007, 2007-2008, and 2008-2009) Third Prize of Structure Design Competition (9 out of 171)	Zhejiang University
2007-2009	Member of Honors Class of Civil Engineering (Thirty five out of 171 students of Civil Engineering were selected)	Zhejiang University

Work Experience

2018-Present, Tongji University, China

Cooperative Adaptive Cruise Control
- Developed an optimal controller that enables platooning with both longitudinal and lateral automation
- Conduct field experiment with SAIC (OEM)

2014-2017, Federal Highway Administration,USA

Eco-Driving with Integrated Optimal Controller
- Developed and evaluated an ITS Eco-driving algorithm that utilizes connected vehicle communications between vehicle and road-side equipment
- Developed an optimal controller that integrates vehicle level and powertrain level optimization

Feb,2011-Aug, 2011, Vanasse Hangen Brustlin, Inc.,USA

NCHRP 3-93: Automated Enforcement for Speeding and Red Light Running (Research Assistant) Safety
- Identified and classified automated enforcement legislation across the nation.
- Prepared a comprehensive assessment of automated speeding and red light enforcement activity in the United States

Evaluation of Access Management Policies and Techniques (Research Assistant)
- Understand the safety effects of implementing various access management policies and strategies, including unsignalized access spacing, signal spacing, interchange spacing, corner clearance, and the provision of left turn lanes or non-traditional accommodation of left turns (e.g. roundabout and superstreet).
- Collected over 600 miles of detailed corridor data from multiple data sources, including state DOTs, Highway Safety Information System (HSIS), aerial imagery, and field visits.
- Input access data into ArcGIS.

- Developed Corridor-level crash prediction models that related access management strategies and safety performance.

Jun,2010-Jul,2010, Nagoya University, Nagoya, Japan

Summer Exchange program

- Subject 1: Latest Advanced Technology and Tasks in Automobile Engineering, 3 Credits, Grade: A
- Subject 2: Japanese, 3 Credits, Grade: A

2009, China Construction Ninth Engineering Division. Co., LTD.

- Metro construction management

Jul, 2009-Aug, 2009, China GuangSha Co., LTD.

Hangzhou Post Information Building's construction site

- Construction management

Teaching

Sep, 2020 – Present, Tongji University
Cooperative Automated transportation System
Feb, 2018 – Present, Tongji University
An Introduction to Intelligent Transportation Systems
Sep, 2018 – Sep, 2019, Tongji University
Traffic Information and Data
Feb, 2019 – Feb, 2020, Tongji University
Traffic Control
Jan, 2011-May, 2011, University of Virginia
Applied Mathematics 3100 (Teaching Assistant)

Supervision

2021- Present	Xuerun Yan (Master; Supervisor)
2021- Present	Shuoyuan Li (Master; Supervisor)
2021- Present	Junqi Li (Ph.D.; Supervisor)
2021- Present	Tian Xu (Ph.D.; Supervisor)
2020- Present	Mingyue Lei (Master; Supervisor)
2020- Present	Yongwei Feng (Master; Supervisor)
2020- Present	Shuyuan Luo (Ph.D.; Supervisor)
2019- Present	Shichao Sun (Master; Supervisor)
2019- Present	Ruicong Zhang (Master; Supervisor)
2019- 2021	Yunyi Liang (Post-doc; Supervisor)
2019- Present	Haoran Wang (Ph.D.; Supervisor)
2018- Present	Lianhua An (Ph.D.; Supervisor)
2018- 2021	Longqian Qi (Master; Supervisor)
2018- Present	Zihan Zhang (Ph.D.; Supervisor)
2017- Present	Yiming Zhang (Ph.D.; Supervisor)
2017- 2020	Zhiying Shang (Master; Co-Supervisor)
2015-2018	Pavle Bojanovic (Ph.D.; Co-Supervisor)
2014-2019	Lian Cui (Ph.D.; Co-Supervisor)
2014-2018	Bingrong Sun (Ph.D.; Co-Supervisor)