3-Curriculum Vitae

I. Personal Information

I.A. UID, Last Name, First Name, Middle Name, Contact Information

UID: *110728214*
Name: *Yang, Xianfeng*
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Mailing Address: *173 Glenn L. Martin Hall, 4298 Campus Dr, College Park, MD 20742*
URL: *https://cee.umd.edu/clark/faculty/1706/Xianfeng-Terry-Yang*
Research Lab: *Maryland Transportation Research and Artificial Intelligence Laboratory (M-TRAIL)*

I.B. Academic Appointments at UMD

August 01, 2022 – Present, Assistant Professor, Department of Civil and Environmental Engineering, University of Maryland: College Park

I.C. Other Employment

August 21, 2017 – July 31, 2022, Assistant Professor, Department of Civil and Environmental Engineering, University of Utah
August 23, 2015 – August 21, 2017, Assistant Professor, Department of Civil, Construction & Environmental Engineering, San Diego State University

I.D. Educational Background

Ph.D. in Civil Engineering, August 23, 2015, University of Maryland: College Park
M.S. in Civil Engineering, December 20, 2011, University of Maryland: College Park
B.S. in Civil Engineering, July 15, 2015, Tsinghua University

I.E. Professional Certifications, Licenses, and Memberships

Engineer in Training, Civil Engineering, State of Maryland

II. Research, Scholarly, Creative and/or Professional Activities

II.A. Chapters

II.A.1. Books

[1]. Atsushi Nara, **Xianfeng Yang**, Sahar Ghanipoor Machiani, & Ming-Hsiang Tsou, (2021), "An Integrated Evacuation Decision Support System Framework with Social Perception Analysis and Dynamic Population Estimation", Book: Empowering Human Dynamics Research with social media and Geospatial Data Analytics, Springer, Cham, pp. 89-112. 1.

[2]. Atsushi Nara, Sahar Ghanipoor Machiani, Nana Luo, Alidad Ahmadi, Karen Robinett, Ken Tominaga, Jaehee Park, Chanwoo Jin, **Xianfeng Yang**, & Ming-Hsiang Tsou, (2021), "Learning dependence relationships of evacuation decision making factors from Tweets", Book: Empowering Human Dynamics Research with social media and Geospatial Data Analytics, Springer, Cham, pp. 113-138.

II.B. Refereed Journals

II.B.1. Refereed Journal Articles

(Underline indicates supervised students and postdoc. *indicates corresponding author)

[1]. Zhao Zhang, Yun Yuan, Mingchen Li, Pan Lu, & **Xianfeng Yang** (2023), Empirical Study of the Effects of Physics-Guided Machine Learning on Freeway Traffic Flow Modeling: Model Comparisons Using Field Data, Transportmetrica Part A, accept.

[2]. Bahar Azin, **Xianfeng Yang***, Nikola Markvoic, & Chenfeng Xiong (2023), An Incentivized Scheme for Electric Vehicle Charging Demand Management, Transportation Research Part C, vol 155, 104288.

[3]. Huijie Zhang, Pu Li, Xiaobai Liu, **Xianfeng Yang**, Li An, (2023), Iterative Semi-Supervised Approach with Pixel-wise Contrastive Loss for Road Extraction in Aerial Images, ACM Transactions on Multimedia Computing, Communications, and Applications, in-press. DOI: https://doi.org/10.1145/3606374

[4]. Lianhua An, **Xianfeng Yang**, Dong-Kyu Kum, Jia Ju*, & Guan Wang, (2023), "Speed Harmonization for Partially Connected and Automated Traffic", IEEE Transactions on Intelligent Transportation Systems, in-press. DOI: https://doi.org/10.1109/TITS.2023.3287336.

[5]. Zhao Zhang*, Hao Yang, & **Xianfeng Yang**, (2023), "A Transfer Learning-based LSTM for Traffic Flow Prediction with Missing Data", Journal of Transportation Engineering, accepted.

[6]. Zhao Zhang*, Yaobang Gong, & **Xianfeng Yang**, (2023), "Secondary Crashes Identification and Modeling along Highways in Utah", Journal of Transportation Research Board: Transportation Research Record, accepted.

[7]. Xiangdong He, Yuning Wu, Keping Zhang, Xuan Zhu*, & **Xianfeng Yang**, (2023), "Roadway Snow Estimation using Dual-Spectrum Camera Images and Computer Vision", Journal of Transportation Research Board: Transportation Research Record, in-press, DOI: https://doi.org/10.1177/03611981231160544.

[8]. Yaobang Gong, Pan Lu, & **Xianfeng Yang***, (2023), "Impact of COVID-19 on Traffic Safety from the "Lockdown" to the "New Normal": A Case Study of Utah", Accident Analysis and Prevention, vol 184, 106995

[9]. Hao Wang, Yun Yuan*, **Xianfeng Yang**, Tian Zhao, & Yang Liu, (2023), "Deep Q learning-based Traffic Signal Control Algorithms: Model Development and Evaluation with Field Data", Journal of Intelligent Transportation Systems. Vol 27 (3), pp. 314-334.

[10]. Yaobang Gong, Tanner Isom, Pan Lu, **Xianfeng Yang**, & Aaron Wang, (2022), "Modeling the Impact of COVID-19 on Transportation at Later Stage of the Pandemic: A Case Study of Utah", Journal of Intelligent Transportation Systems: Technology, Planning, and Operations, In-press, DOI: https://doi.org/10.1080/15472450.2022.2157212.

[11]. Qinzheng Wang, Yun Yuan, Qiwei Zhang, & **Xianfeng Yang***, (2022), "Signalized arterial origin-destination flow estimation using flawed vehicle trajectories: A self-supervised learning approach without ground truth", Transportation Research Part C: Emerging Technologies, 145, 103917.

[12]. Qinzheng Wang, Yaobang Gong, & **Xianfeng Yang***, (2022), "Connected Automated Vehicle Trajectory Optimization Along Signalized Arterial: A Decentralized Approach Under Mixed Traffic Environment", Transportation Research Part C: Emerging Technologies, 145, 103918.

[13]. Handong Yao, Xiaopeng Li*, & **Xianfeng Yang**, (2022), "Physics-Aware Learning-based Vehicle Trajectory Prediction of Congested Traffic in a Connected Vehicle Environment", IEEE Transactions on Vehicular Technology. Vol 72 (1), pp. 102 – 112.

[14]. Jia Hu, Longqian Qi, Zihan Zhang, **Xianfeng Yang**, & Xin Li*, (2022), "A Detection Method for Cyber-Attack on Connected Signal Phase and Timing Information", Transportmetrica B: Transport Dynamics. Vol. 10 (1), pp. 731-751.

[15]. Yun Yuan, Qinzheng Wang, & **Xianfeng Yang***, (2022), "Traffic Flow Modeling with Gradual Physics Regularized Learning", IEEE Transactions on Intelligent Transportation Systems, Vol. 23 (9), pp.14649 - 14660.

[16]. Lianhua An, **Xianfeng Yang**, & Jia Hu*, (2022), "Modeling System Dynamics of Mixed Traffic with Partially Connected and Automated Vehicles", IEEE Transactions on Intelligent Transportation Systems, Vol. 23 (9), pp. 15755 - 15764.

[17]. Jia Hu, Zihan Zhang, Yongwei Feng, Xin Li*, & **Xianfeng Yang**, (2022), "Transit Signal Priority Enabling Connected and Automated Buses to Cut Through Traffic", IEEE Transactions on Intelligent Transportation Systems, Vol. 23 (7), pp. 8782 - 8792.

[18]. Wei Hao*, Li Liu, & **Xianfeng Yang**, (2022), "Reducing CACC Platoon Disturbances Caused by State Jitters by Combining Two Stages Driving State Recognition with Multiple Platoons' Strategies and Risk Prediction' Strategies and Trajectory Prediction", IEEE Transactions on Intelligent Transportation Systems. Vol. 23 (3), pp. 2144 - 2154.

[19]. Bahar Azin, **Xianfeng Yang***, Nikola Markovic, & Mingxi Liu, (2021), "Infrastructure Enabled and Electrified Automation: Charging Facility Planning for Cleaner Smart Mobility", Transportation Research Part D, vol.101, 103079.

[20]. Qinzheng Wang & **Xianfeng Yang***, (2021), "Dynamic Multi-path Signal Progression Control based on Connected Vehicle Technology", Journal of Transportation Engineering, Vol. 147 (10), pp.04021054.

[21]. Yun Yuan, Zhao Zhang, **Xianfeng Yang***, & Shandian Zhe (2021), "Macroscopic Traffic Flow Modeling with Physics Regularized Gaussian Process: A New Insight into Machine Learning Applications in Transportation", Transportation Research Part B, Vol. 146, pp. 88-110.

[22]. Qinzheng Wang, Yun Yuan, **Xianfeng Yang***, & Zhitong Huang (2021), "Adaptive and Multi-path Progression Signal Control under Connected Vehicle Environment", Transportation Research Part C: Emerging Technologies, Vol. 124, 102965.

[23]. Chenfeng Xiong*, **Xianfeng Yang**, & Minha Lee, (2021), "An integrated modeling framework for active traffic management and its applications in the Washington D.C. area", Journal of Intelligent Transportation Systems. Vol. 25(6), pp. 609-625.

[24]. Zhao Zhang & **Xianfeng Yang**, (2021), "Analysis of highway performance under mixed connected and regular vehicle environment", Journal of Intelligent and Connected Vehicle, Vol. 2(2), pp. 68-79.

[25]. **Xianfeng Yang**, Ke Huang*, Zhehao Zhang, & Zhao Zhang, (2021), "Eco-Driving System for Connected Automated Vehicles: Multi-Objective Trajectory Optimization", IEEE Transactions on Intelligent Transportation Systems. Vol 22(12), pp. 7837 - 7849.

[26]. Zhao Zhang, Runan Yang, Glenn Blackwelder, & **Xianfeng Yang***, (2020), "Examining Driver Injury Severity in Left-turn Crashes using Hierarchical Ordered Probit Models", Traffic Injury Prevention, Vol. 22(1), pp. 57-62.

[27]. Zhao Zhang & **Xianfeng Yang***, (2020), "Freeway Traffic Speed Estimation by Regression Machine Learning Techniques Using Probe Vehicle and Traffic Sensor Data", Journal of Transportation Engineering. Vol. 146(12).

[28]. Zhao Zhang, & **Xianfeng Yang***, (2020), "Freeway Traffic Speed Estimation in Traffic Monitoring Systems using a Hybrid Machine Learning Approach", Journal of Transportation Research Board: Transportation Research Record, Vol. 2674(10), pp. 68-78.

[29]. Qinzheng Wang, **Xianfeng Yang***, Blaine D. Leonard, & Jamie Mackey, (2020), "Field Evaluation of Connected Vehicle-based Transit Signal Priority System under Two Different Signal Base Plans", Journal of Transportation Research Board: Transportation Research Record, Vol. 2674:(7), pp. 172-180.

[30]. Yongjie Lin, **Xianfeng Yang***, & Qinzheng Wang, (2020), "New transit signal priority scheme for intersections with nearby bus rapid transit median stations", IET Intelligent Transport Systems, Vol. 14(12), pp. 1606 – 1614.

[31]. Qinzheng Wang, **Xianfeng Yang***, Zhitong Huang, & Yun Yuan, (2020), "Multi-vehicle Trajectory Optimization for Cooperative Adaptive Cruise Control (CACC) Platoon Formation", Journal of Transportation Research Board: Transportation Research Record, Vol. 2674(4), pp. 30-41.

[32]. Liu Xu, **Xianfeng Yang***, & Gang-Len Chang, (2019), "Two-stage model for optimizing traffic signal control plans of signalized Superstreet", Transportmetrica A: Transport Science. 15:2, pp. 993-1018.

[33]. **Xianfeng Yang***, Zhao Zhang, Gang-Len Chang, & Pengfei Li, (2019), "Smart Signal Control System for Accident Prevention and Arterial Speed Harmonization under Connected Vehicle Environment", Journal of Transportation Research Board: Transportation Research Record. vol 2673 (5), pp: 61-71.

[34]. **Xianfeng Yang**, Wei Hao*, & Yang Lu, (2019), "Inventory Slack Routing Application in Emergency Logistics and Relief Distributions", PLOS ONE 13(6): e0198443.

[35]. Yongjie Lin***, Xianfeng Yang**, & Nan Zou, (2019), "Passive Transit Signal Priority for High Transit Demand: Model Formulation and Strategy Selection", Transportation Letters: The International Journal of Transportation Research, vol. 11(3), pp. 119-129.

[36]. Wei Hao, Yongjie Lin*, Yao Cheng, **Xianfeng Yang**, (2018), "Signal Progression Model for Long Arterial: Intersection Grouping and Coordination", IEEE Access, vol 6, pp. 30128– 30136.

[37]. Xin Li, Liyu Wu, & **Xianfeng Yang***, (2018), "Exploring the Impact of Social Economic Variables on Traffic Safety Performance in Hong Kong: A Time Series Analysis", Safety Science, vol 109, pp. 67–75.

[38]. Ke Huang, Xianfeng Yang*, Chris Mi, & Yang Carl Lu, (2018), "Ecological Driving System for Connected/Automated Vehicle using a Two-Stage Control Hierarchy", IEEE Transactions on Intelligent Transportation Systems, vol 19(7), pp. 2373–2384.

[39]. **Xianfeng Yang***, Yao Cheng, & Gang-Len Chang, (2018), "Integration of Adaptive Signal Control and Freeway Off-ramp Priority Control for Commuting Corridors", Transportation Research Part C: Emerging Technologies, vol 86, pp. 328–345.

[40]. Yao Cheng & **Xianfeng Yang***, (2018), "Signal Coordination Model for Local Arterial with Heavy Bus Flows", Journal of Intelligent Transportation Systems: Technology, Planning, and Operations, vol 22(5), pp. 422-432.

[41]. Atsushi Nara*, **Xianfeng Yang**, Sahar Ghanipoor, & Ming Tsou, (2017), "An Integrated Evacuation Decision Support System Framework with Social Perception Analysis and Dynamic Population Estimation", International Journal of Disaster Risk Reduction. Vol 25, pp. 190–201.

[42]. Wei Hao*, Bahman Moghimi, & **Xianfeng Yang**, (2017), "Effects of Foggy Conditions on Driver Injury Levels in U.S. Highway-rail Grade Crossing Accidents", Case Studies on Transport Policy, vol 5 (4), pp. 627–633.

[43]. Pu Lyu, Yongjie Lin*, Lei Wang, & **Xianfeng Yang**, (2017), "Variable Speed Limit Control for Delay and Crash Reductions at Freeway Work Zone Area", ASCE Journal of Transportation Engineering, Part A: Systems, vol. 143 (12): 04017062.

[44]. Liu Xu, **Xianfeng Yang***, & Gang-Len Chang, (2017), "Computing Minimal U-Turn Offset for Unsignalized Superstreet", Journal of Transportation Research Board: Transportation Research Record, vol. 2618, pp. 48–57.

[45]. **Xianfeng Yang*** & Gang-Len Chang, (2017), "Estimation of Time-Varying Origin-Destination Patterns for Design of Multipath Progression on a Signalized Arterial", Journal of Transportation Research Board: Transportation Research Record, vol. 2667, pp. 28–38.

[46]. **Xianfeng Yang**, Yang Lu, & Wei Hao*, (2017), "Origin Destination (O-D) Estimation using Probe Vehicle Trajectory and Link Counts", Journal of Advanced Transportation, vol. 2017, ID 4341532.

[47]. **Xianfeng Yang*** & Yao Cheng, (2017), "Development of Signal Optimization Models for Asymmetric Two-Leg Continuous Flow Intersections", Transportation Research Part C: Emerging Technologies, vol. (74), pp. 306–326.

[48]. Wei Hao*, Camille Kamga, & Xianfeng Yang, (2016), "Driver Injury Severity Study for Truck Involved Accidents at Highway-rail Grade Crossing in the United States", Transportation Research Part F, vol. 43, pp. 379–386.

[49]. **Xianfeng Yang***, Yao Cheng, & Gang-Len Chang, (2016), "Operational Analysis and Signal Design for Asymmetric Two-Leg Continuous-Flow Intersection", Transportation Research Record: Journal of the Transportation Research Board, vol 2553, pp. 72–81.

[50]. **Xianfeng Yang***, Yang Carl Lu, & Yongjie Lin, (2016), "Optimal variable speed limit control system for freeway work zone operations", ASCE Journal of computing in civil engineering, Vol 31(1), 04016044.

[51]. Zhijie Dong, Mengcheng Wang, & **Xianfeng Yang***, (2016), "The Application of Public Private Partnerships in Public Transportation: Comparative Study between China and United States", Journal of Modern Transportation, vol. 24 (3), pp. 215–223.

[52]. Xiaoyun Lu, Jie Yu*, **Xianfeng Yang**, Shuliang Pan, & Nan Zou, (2016), "Flexible Transit Route Design to Enhance System Accessibility in Urban Area", Journal of Advanced Transportation, vol. 50 (4), pp. 507–521.

[53]. **Xianfeng Yang***, Yang Carl Lu, & Gang-Len Chang, (2015), "Dynamic Signal Priority Control Strategy to Mitigate the Off-ramp Queue Spillback to the Freeway Mainline Segment", Journal of Transportation Research Board: Transportation Research Record, vol. 2443, pp. 40–48.

[54]. Yang Carl Lu*, **Xianfeng Yang**, & Gang-Len Chang, (2015), "Detector-error Screening Algorithm based on Temporal and Spatial Information", Journal of Transportation Research Board: Transportation Research Record, vol. 2438, pp 1-11.

[55]. **Xianfeng Yang***, Yang Carl Lu, & Gang-Len Chang, (2015), "Exploratory analysis of an optimal variable speed control system for a recurrently congested freeway bottleneck", Journal of Advanced Transportation, 49(2), 195–209.

[56]. Yongjie Lin, **Xianfeng Yang**, Nan Zou*, & Mark Franz, (2015), Transit Signal Priority Control at Signalized Intersections: a Comprehensive Review", Transportation Research Record: Journal of the Transportation Research Board, vol 2487, pp. 112–121.

[57]. **Xianfeng Yang***, Yao Cheng, & Gang-Len Chang, (2015), "Integrating Off-Ramp Spillback Control with a Decomposed Arterial Signal Optimization Model", Transportation letters, vol 7(3), pp. 168–180.

[58]. **Xianfeng Yang***, Yao Cheng, & Gang-Len Chang, (2014), "Multi-path Progression Model for Synchronization of Arterial Traffic Signals", Transportation Research Part C: Emerging Technologies, vol. 53 pp.93–111.

[59]. Yang Lu & **Xianfeng Yang***, (2014), "Estimating Dynamic Queue Distribution in a Signalized Network through a Probability Generating Model", IEEE Transactions on Intelligent Transportation Systems, vol. 15(1), 334–344.

[60]. **Xianfeng Yang***, Gang-Len Chang, & Saed Rahwanji, (2014), "Development of a Signal Optimization Model for Diverging Diamond Interchange", ASCE Journal of Transportation Engineering, vol. 140(5), 04014010.

[61]. **Xianfeng Yang*** & Shanjiang Zhu, (2014), "Solution to the Multidepot Inventory Slack-Routing Problem at the Planning Stage", ASCE Journal of Computing in Civil Engineering, vol 30(1), 04014115.

[62]. Shuliang Pan, Jie Yu*, **Xianfeng Yang**, & Nan Zou, (2014), "Designing a flexible feeder transit system serving irregularly shaped and gated communities: determining service area and feeder route planning", ASCE Journal of Urban Planning and Development, 141(3), 04014028.

[63]. **Xianfeng Yang*** & Lei Feng, (2013), "Inventory routing problem: Routing and scheduling approach with the objective of slack maximization", Transportation Research Record: Journal of the Transportation Research Board, (2378), 32–42.

[64]. **Xianfeng Yang***, Gang-Len Chang, Saed Rahwanji, & Yang Lu, (2013), "Development of Planning-Stage Models for Analyzing Continuous Flow Intersections", ASCE Journal of Transportation Engineering, vol. 139(11), pp. 1124–1132.

[65]. Yongjie Lin*, **Xianfeng Yang**, Nan Zou, & Lei Jia, (2013), "A Passive Transit Signal Priority Control at Urban Arterials", Journal of Northeastern University: Natural Science, vol. 34(9), pp. 1227–1231.

[66]. Yongjie Lin*, **Xianfeng Yang**, Nan Zou, & Lei Jia, (2013), "Real-Time Bus Arrival Time Prediction: A Case Study for Jinan, China", ASCE Journal of transportation engineering, vol. 139(11), pp. 1133–1140.

[67]. Yongjie Lin*, Xianfeng Yang, Gang-Len Chang, & Nan Zou, (2013), "Transit Priority Strategies for Multiple Routes under Headway-Based Operations", Journal of Transportation Research Board: Transportation Research Record, vol. 2356(1), pp. 34–43.

[68]. Xianfeng Yang*, Yang Lu, & Yongjie Lin, (2013), "Interval optimization for signal timings with time-dependent uncertain arrivals", Journal of Computing in Civil Engineering, vol 29(5), 04014057.

II.C. Published Conference Proceedings

II.C.1. Refereed Conference Proceedings

[1]. Zhao Zhang, Yaobang Gong, & **Xianfeng Yang***, (2023), "Secondary Crashes Identification and Modeling along Highways in Utah", 102nd Transportation Research Board Annual Meeting, Washington D. C. #23-01595.

[2]. Yaobang Gong, Pan Lu, & **Xianfeng Yang*** (2023), "Investigating the Impact of COVID-19 on Traffic Safety: From "Lockdown" to the "New Normal", 102nd Transportation Research Board Annual Meeting, Washington D. C. #23-02610.

[3]. Qinzheng Wang, Yaobang Gong, & **Xianfeng Yang*** (2023), "Connected Automated Vehicle Trajectory Optimization Along Signalized Arterial: A Decentralized Approach", 102nd Transportation Research Board Annual Meeting, Washington D. C. #23-01554.

[4]. Yun Yuan* & **Xianfeng Yang,** (2023), "Physics Constrained Gaussian Process for Traffic State Estimation", 102nd Transportation Research Board Annual Meeting, Washington D. C. #23-01100.

[5]. Zhao Zhang, Qinzheng Wang, Hao Yang, & **Xianfeng Yang***, (2023), "Freeway Traffic Flow Forecasting Using Physics-Guided LSTM with Flawed Data", 102nd Transportation Research Board Annual Meeting, Washington D. C. #23-01575.

[6]. Zhao Zhang & **Xianfeng Yang***, (2023), "A Transfer Learning-based LSTM for Traffic Flow Prediction with Missing Data", 102nd Transportation Research Board Annual Meeting, Washington D. C. #23-01583.

[7]. Xiangdong He, Yuning Wu, Keping Zhang, Xuan Zhu*, & **Xianfeng Yang,** (2023), "Roadway Snow Estimation using Dual-Spectrum Camera Images and Computer Vision", 102nd Transportation Research Board Annual Meeting, Washington D. C. #23-01324.

[8]. Biao Kuang, Jianli Chen*, Sayantan Tarafdar, & **Xianfeng Yang,** (2023), "Pavement Marking Conditions Assessment using Mobile Phone Based on YOLO and Similarity Detection", 102nd Transportation Research Board Annual Meeting, Washington D. C. #23-02100.

[9]. Chenfeng Xiong, Zihan Ma, Jina Mahoudi, Yao Cheng, & **Xianfeng Yang**, (2023), "Assessing the Risk of Pedestrian-Involved Crashes at the Link Level Using High-Resolution Location- Based Data", 102nd Transportation Research Board Annual Meeting, Washington D. C. #23-05259.

[10]. Handong Yao*, Xiaopeng Li, & **Xianfeng Yang**, (2022), "Vehicle Trajectory Prediction with a Physics-Aware Learning-based Model Considering Shockwaves in a Connected Vehicle Environment", INFORMS Computing Society (ICS) Conference, Tampa, FL.

[11]. Yaobang Gong, Tanner Isom, **Xianfeng Yang***, Pan Lu, Aaron Wang, (2022), Modeling the Impact of COVID-19 on Transportation at Later Stage of the Pandemic: A Case Study of Utah, 101st Transportation Research Board Annual Meeting, Washington D. C. #22-01838.

[12]. Bahar Azin, Yaobang Gong, & **Xianfeng Yang*** (2022), "Impact of Connected Vehicle Technology on Traffic Safety in Different Highway Geometric Scenarios", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-03282.

[13]. Lianhua An, Jia Hu*, & **Xianfeng Yang**, (2022), "Speed Harmonization for Partially Connected and Automated Traffic", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-02943.

[14]. Bahar Arzin, **Xianfeng Yang***, Nikola Markovic, & Mingxi Liu, (2022), "Electric Vehicle Charging Station Planning over Coupled Power Grid and Transportation Network", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-03325.

[15]. Yun Yuan, Qinzheng Wang, & **Xianfeng Yang***, (2022), "Traffic Flow Modeling with Gradual Physics Regularized Learning", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-03807.

[16]. Zhao Zhang, **Xianfeng Yang***, & Yaobang Gong, (2022), "Freeway Traffic Flow Modeling with Physics-guided Machine Learning Technique", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-03462.

[17]. Qinzheng Wang, **Xianfeng Yang***, & Yun Yuan, (2022), "Signalized Arterial Origin-destination (OD) Flow Estimation Using Connected Vehicle (CV) Trajectories: A Deep Learning without Ground-Truth Approach", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-01828.

[18]. Zhao Zhang, **Xianfeng Yang***, & Yaobang Gong, (2022), "A New Framework of Machine Learning Techniques for Macroscopic Traffic State Estimation", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-03305.

[19]. Yun Yuan, Qinzheng Wang & **Xianfeng Yang***, (2022), "Physics Regularized Streaming Learning for Freeway Traffic State Estimation", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-03416.

[20]. Yun Yuan, Qinzheng Wang, & **Xianfeng Yang***, (2022), "Freeway Vehicle Trajectory Reconstructing Using Physics Regularized Gaussian Process", 101st Transportation Research Board Annual Meeting, Washington D. C. #22-03520.

[21]. Jia Hu*, Lianhua An, & **Xianfeng Yang**, (2021), "Modeling Maximum Throughput of Freeway Merging Area with Partially Connected Automated Traffic", 24th IEEE Intelligent Transportation Systems Conference.

[22]. Qinzheng Wang, **Xianfeng Yang***, Zhitong Huang, & Yun Yuan, (2021), "Adaptive and Multi-path Progression Signal Control under Connected Vehicle Environment", 100th Transportation Research Board Annual Meeting, Washington D. C. #21-00844.

[23]. Yun Yuan, Xin Wang, Xin Li, & **Xianfeng Yang***, (2021), "A Deep Q-learning Method for Optimal Dynamic Privileged Parking Permit Policy", 100th Transportation Research Board Annual Meeting, Washington D. C. #21-01648.

[24]. Yun Yuan, Zhao Zhang, & **Xianfeng Yang***, (2021), "Modeling Macroscopic Traffic Flow Using a New Physics Regularized Machine Learning Approach", 100th Transportation Research Board Annual Meeting, Washington D. C. #21-00836.

[25]. Yun Yuan, Zhao Zhang, & **Xianfeng Yang***, (2021), "Traffic State Estimation with Physics Regularized Gaussian Process: Discretized Formulation", 100th Transportation Research Board Annual Meeting, Washington D. C. #21-00840.

[26]. Zhao Zhang, & **Xianfeng Yang***, (2021), "Freeway Traffic State Prediction using Constructed Traffic Information from Hybrid Machine Learning", 100th Transportation Research Board Annual Meeting, Washington D. C. #21-03439.

[27]. Zhao Zhang, Yun Yuan, & **Xianfeng Yang***, (2021), "Freeway Traffic State Estimation Using Physics-guided Machine Learning Technique", 100th Transportation Research Board Annual Meeting, Washington D. C. #21-03216.

[28]. Xiang Zhang, **Xianfeng Yang**, & Mingyue Ji*, (2020), "A New Design Framework on D2D Coded Caching with Optimal Rate and Less Subpacketizations", IEEE International Symposium on Information Theory, Los Angeles, California, USA. Paper #: 1712.

[29]. Qinzheng Wang, **Xianfeng Yang***, Zhitong Huang, & Yun Yuan, (2020), "Multi-vehicle Trajectory Optimization for Cooperative Adaptive Cruise Control (CACC) Platoon Formation", 99th Transportation Research Board Annual Meeting, Washington D. C. #20-04227.

[30]. Qinzheng Wang, **Xianfeng Yang***, (2020), "Dynamic Multi-path Signal Progression Control based on Connected Vehicle Technology", 99th Transportation Research Board Annual Meeting, Washington D. C. #20-05011.

[31]. Qinzheng Wang, **Xianfeng Yang***, Blaine D. Leonard, & Jamie Mackey, (2020), "Field Evaluation of Connected Vehicle-based Transit Signal Priority System under Two Different Signal Base Plans", 99th Transportation Research Board Annual Meeting, Washington D. C. #02-04044.

[32]. Bahar Azin, **Xianfeng Yang***, & Kelly Njord, (2020), "Multi-stage Algorithm for Detection-Error Identification based on the Detector Station Type", 99th Transportation Research Board Annual Meeting, Washington D. C. #20-05342.

[33]. Yun Yuan, **Xianfeng Yang***, Hao Wang, Tian Zhao & Yang Liu, (2020), "A Model-based Deep Q-Learning Algorithm for Traffic Signal Timing Control at Isolated Intersections", 99th Transportation Research Board Annual Meeting, Washington D. C.#20-01867.

[34]. Zhao Zhang, Runan Yang, Glenn Blackwelder, & **Xianfeng Yang***, (2020) "Examining Driver Injury Severity in Left-turn Crashes using Hierarchical Ordered Probit Models", 99th Transportation Research Board Annual Meeting, Washington D. C.#20-04782.

[35]. Zhao Zhang, & **Xianfeng Yang***, (2020) "Freeway Traffic Speed Estimation in Traffic Monitoring Systems using a Hybrid Machine Learning Approach", 99th Transportation Research Board Annual Meeting, Washington D.C. #20-04421.

[36]. **Xianfeng Yang***, Zhehao Zhang, Yun Yuan & Xin Li, (2020) "Freeway Traffic State Estimation with Mixed Connected Automated Vehicles and Human-Driven Vehicles", 99th Transportation Research Board Annual Meeting, Washington D.C. #20-01806.

[37]. Yunyi Liang, Ning Ma, Jia Hu*, Xin Li, & **Xianfeng Yang**, (2020) "Data-Driven Road Side Unite Location Optimization for Information Propagation under Stochastic Traffic Condition", 99th Transportation Research Board Annual Meeting, Washington D.C. #20-01608.

[38]. Lianhua An, Jia Hu*, & **Xianfeng Yang**, (2020) "Modeling System Dynamics for Mixed Traffic with Partially Connected and Automated Vehicles", 99th Transportation Research Board Annual Meeting, Washington D.C. #20-01778.

[39]. **Xianfeng Yang**, Wei Hao, Cathy Liu, (2020) "Probabilistic Stationary Queuing Model at Signalized Intersections Experiencing Potential Downstream Queue Spillover", 99th Transportation Research Board Annual Meeting, Washington D.C. #20-02475.

[40]. Zhao Zhang, **Xianfeng Yang***, Cathy Liu, Kelly Burns, & Glenn Blackwelder, (2019), "Data Screening Algorithm for Detecting Freeway Wrong Way Driving", 98th Transportation Research Board Annual Meeting, Washington D. C., #19-05930.

[41]. **Xianfeng Yang***, Zhao Zhang, Gang-Len Chang, & Pengfei Li, (2019), "Smart Signal Con- trol System for Accident Prevention and Arterial Speed Harmonization under Connected Vehicle Environment", 98th Transportation Research Board Annual Meeting, Washington D. C., #19-05811.

[42]. Yongjie Lin & **Xianfeng Yang***, (2019), "Real-time Signal Control for Bus Rapid Transit with Connected Vehicle Technology", 98th Transportation Research Board Annual Meeting, Washington D. C., #19-04639.

[43]. Jessica Dozier, Kimberly McFarland, Sahar Ghanipoor Machiani, Atsushi Nara, **Xianfeng Yang**, & Ming-Hsiang Tsou, (2019), "Improve Disaster Communication in Hyperlocal Online and Offline Communities using Social Media: A Case Study of the 2015 Nepal Earthquake", 98th Transportation Research Board Annual Meeting, Washington D. C., #19-02557.

[44]. Farzana Chowdhury, Peirong (Slade) Wang, Pengfei Li*, Li Zhang, & **Xianfeng Yang**, (2019), "Resilient Mixed Integer Linear Programming Formulation for Heterogeneous Traffic Signal Priority Scheduling Problem", 98th Transportation Research Board Annual Meeting, Washington D. C., #19-06026.

[45]. **Xianfeng Yang***, Zhehao Zhang, Ming Tsou, Sahar Ghanipoor, & Atsushi Nara, (2018), Development of Integrated Wildfire Evacuation Decision Support System (IWEDSS) with Population Density Distribution and Robust Optimization Framework, 97th Transportation Research Board Annual Meeting, Washington D. C. Conference Paper, #18-05562.

[46]. **Xianfeng Yang***, Ke Huang, Wei Hao, & Yang Carl Lu, (2018), Development of Two-stage Based Eco-Driving System for Connected Automated Vehicles, 97th Transportation Research Board Annual Meeting, Washington D. C. Conference Paper, # 18-00772.

[47]. Liu Xu, **Xianfeng Yang***, Gang-Len Chang, & Saed Rahwanji, (2017), "Computing the of Minimal U-turn Offset for an Un-Signalized Superstreet", 96th Transportation Research Board Annual Meeting, Washington D. C. #17-2645.

[48]. **Xianfeng Yang*** & Gang-Len Chang, (2017), "Estimation of time-varying origin-destination patterns for design of multi-path progression on a signalized arterial", 96th Transportation Research Board Annual Meeting, Washington D. C. #17-2643.

[49]. **Xianfeng Yang***, Yan Cheng, & Jayesh Sanchez, (2017), "Arterial Corridor Decomposition Model for Improving Signal Progression Efficiency", 96th Transportation Research Board Annual Meeting, Washington D. C. #17-3522.

[50]. **Xianfeng Yang***, & Gang-Len Chang, (2017), "Integrating of Adaptive Signal Control and Freeway Off-ramp Priority Control for Commuting Corridors", 96th Transportation Research Board Annual Meeting, Washington D. C. #17-2566.

[51]. **Xianfeng Yang*** & Yang Carl Lu, (2017), "A Two-Stage Solution Algorithm for a Meanderable Urban Logistic Problem, 96th Transportation Research Board Annual Meeting, Washington D. C. #17-3651.

[52]. Liu Xu, **Xianfeng Yang***, & Gang-Len Chang, (2017), "Two-stage Signal Optimization Model for Signalized Superstreet", 96th Transportation Research Board Annual Meeting, Washington D. C. #17-2544.

[53]. Wenxin Qiao*, Tong Zhu, **Xianfeng Yang**, & Jia Liu, (2016), "Transit Signal Priority Control Algorithm with Gaming Theory: An Application in Beijing, China", 95th Transportation Research Board Annual Meeting, Washington D. C. #16-5498.

[54]. Yongjie Liu, **Xianfeng Yang***, & Zhijie Dong, (2016), "Passive Transit Signal Priority on Local Arterials: Model Formulation and Strategy Selection", 95th Transportation Research Board Annual Meeting, Washington D. C. #16-4671.

[55]. Liu Xu, **Xianfeng Yang***, Gang-Len Chang, & Saed Rahwanji, (2016), "Development of Interval-based Planning Models for Evaluating the Geometric Features of Signalized Super- street", 95th Transportation Research Board Annual Meeting, Washington D. C. #16-4287.

[56]. Yao Cheng, **Xianfeng Yang***, & Gang-Len Chang, (2016), "DUALBAND: A Signal Progression Model to Synchronize both Through and Turning Traffic on Local Arterials", 95th Transportation Research Board Annual Meeting, Washington D. C. #16-4255.

[57]. **Xianfeng Yang***, Yao Cheng, & Gang-Len Chang, (2016), "Operational Analysis and Signal Design for Asymmetric Two-Leg Continuous Flow Intersections", 95th Transportation Research Board Annual Meeting, Washington D. C. #16-4155.

[58]. Yao Cheng, **Xianfeng Yang***, & Gang-Len Chang, (2015), "A bus-based progression system for arterials with heavy transit flows", 94th Transportation Research Board Annual Meeting, Washington D. C. # 15-0097.

[59]. **Xianfeng Yang**, Yao Cheng*, & Gang-Len Chang, (2015), "Integrating off-ramp spillback control with the decomposed arterial signal optimization model", 94th Transportation Research Board Annual Meeting, Washington D. C. # 15-3565, also published in TRR.

[60]. **Xianfeng Yang***, Yao Cheng, & Gang-Len Chang, (2014) "Real-Time Traffic Queue Length Estimation at the Freeway Off-ramp Using Dual-Zone Detectors", ITS World Congress, Detroit, Michigan.

[61]. Yang Carl Lu*, **Xianfeng Yang**, & Gang-Len Chang, (2014), "A Detector-Error Screening Algorithm Based on Temporal and Spatial Information", 93rd Transportation Research Board Annual Meeting, Washington D. C. #14-2214, also published in TRR.

[62]. Shuliang Pan, Jie Yu*, **Xianfeng Yang**, & Nan Zou, (2014), "Flexible Feeder Transit System for Chinese Cities: Service Area Determination and Feeder Route Planning", 93rd Trans-portation Research Board Annual Meeting, Washington D. C. #14-3043.

[63]. **Xianfeng Yang***, Yang Carl Lu, & Gang-Len Chang, (2014), "Dynamic Signal Priority Control Strategy to Mitigate Off-ramp Queue Spillback to Freeway Mainline Segment", 93rd Transportation Research Board Annual Meeting, Washington D. C. #14-0419.

[64]. **Xianfeng Yang*** & Yang Carl Lu, (2014), "Development of Optimal Variable Speed Limit Control System for Freeway Work Zone Operations", 93rd Transportation Research Board Annual Meeting, Washington D. C. #14-3591.

[65]. Shuliang Pan, **Xianfeng Yang**, Nan Zou*, & Mark Franz, (2014), "Flexible Transit Designs to Enhance the Transport Accessibility of Disabled and Senior Passengers", 93rd Transportation Research Board Annual Meeting, Washington D. C. #14-3031.

[66]. Yongjie Lin*, **Xianfeng Yang**, & Nan Zou, (2014), "Dynamic Controls for Bus Rapid Transit System at the Station-Neared Intersections", 93rd Transportation Research Board Annual Meeting, Washington D. C. #14-3557.

[67]. **Xianfeng Yang**, Yongjie Lin*, Yang Carl Lu, & Nan Zou, (2013) "Optimal Variable Speed Limit Control for Real-time Freeway Congestions". 13th COTA International Conference of Transportation Professionals (CICTP), Shenzheng, China.

[68]. Yongjie Lin*, **Xianfeng Yang**, Nan Zou, & Lei Jia, (2013), "Development of model-based transit signal priority control for local arterials", 13th COTA International Conference of Transportation Professionals (CICTP), Shenzheng, China.

[69]. Yongjie Lin*, **Xianfeng Yang**, Shuliang Pan, & Nan Zou, (2013), "Transit Signal Priority Control for Multi-conflicted Routes under Headway-based Service". The 2nd International Conference on Transportation Information and Safety (ICTIS 2013), Wuhan China.

[70]. Yongjie Lin*, **Xianfeng Yang**, Nan Zou, & Lei Jia, (2013), "Real-Time Bus Arrival Time Prediction: Application to Case of Chinese Cities". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-3355.

[71]. Yongjie Lin*, **Xianfeng Yang**, Gang-Len Chang, & Nan Zou, (2013), "Transit Priority Strategies for Multiple Routes Under Headway-Based Operations". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-3190, also published in TRR.

[72]. **Xianfeng Yang*** & Lei Feng, (2013), "Routing and Scheduling Approach for Urgent Material Distribution Problem". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-4343, also published in TRR.

[73]. **Xianfeng Yang***, Gang-Len Chang, Yang Lu, & Saed Rahwanji, (2013), "Development of Planning Framework for Geometric Design of Continuous-Flow Intersections". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-3809.

[74]. **Xianfeng Yang***, Gang-Len Chang, & Saed Rahwanji, (2013), "Multistage System for Planning Analysis and Signal Design of Diverging Diamond Interchange". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-3245.

[75]. **Xianfeng Yang***, Yang Carl Lu, & Gang-Len Chang, (2013), "Proactive Optimal Variable Speed Limit Control for Recurrently Congested Freeway Bottlenecks". 92nd Transportation Research Board Annual Meeting, Washington D. C. #13-3139.

II.D. Conferences, Workshops, and Talks

II.D.1. Invited Talks

[1]. **Xianfeng Yang**, (2022), "Physics Regularized Machine Learning for Smart Mobility Systems: Theoretical Foundation and Applications in Connected Automated Vehicles", University of Texas at Austin, Austin, TX.

[2]. **Xianfeng Yang**, (2022), "Integration of Machine Learning and Transportation Domain Knowledge for Future Smart Mobility", University of Maryland, College Park, MD.

[3]. **Xianfeng Yang**, (2021) "Toward Future Smart Mobility: Machine Learning for Connected Automated Vehicle Systems", Purdue University, West Lafayette, IN.

[4]. **Xianfeng Yang**, (2021) "Physics Regularized Machine Learning for Smart Mobility", University of South Florida, Tampa, FL.

[5]. **Xianfeng Yang**, (2021) "Physics Regularized Machine Learning for Traffic Flow Modeling", University of Michigan, Ann Arbor, MI.

[6]. **Xianfeng Yang**, (2020) "Modeling Stochastic Traffic Flow Patterns with Physics Regularized Gaussian Process: Domain Knowledge-based Machine Learning", University of Maryland Traffic Operation Center, College Park, MD.

[7]. Yun Yuan & **Xianfeng Yang**, (2020) "Traffic State Estimation with Physics Regularized Machine Learning: A New Insight into Machine Learning Applications in Traffic Flow Modeling", Automated Vehicle Symposium 2020, San Diego, CA.

[8]. **Xianfeng Yang**, Zhehao Zhang, & Zhao Zhang (2018), "Macroscopic Traffic Flow Modeling with Mixed Connected and Human-driven Vehicles", INFORMS 2018 General Session, Phoenix, AZ.

[9]. **Xianfeng Yang** & Gang-Len Chang, (2018), "Real-time Urban Arterial Signal Control Un- der Connected Automated Vehicle Environment", Automated Vehicle Symposium 2018, San Francisco, CA.

[10]. **Xianfeng Yang**, (2018), "Next Generation of Intelligent Transportation System", CAST-UT 2018 Annual Conference AI Session, Salt Lake City, UT.

[11]. **Xianfeng Yang**, (2017), "Traffic Operations with Connected and Automated Vehicles", University of Utah Freshman Engineering Scholar Program Tour, Salt Lake City, UT.

[12]. **Xianfeng Yang**, (2017), "Stage-based Evaluation Plan with Robust Optimization", NSF Project Summer Workshop - Social Media Analytics and Decision Support Systems: Applications to Public Health and Crisis Management, San Diego, CA.

[13]. **Xianfeng Yang**, (2017), "Traffic Operations with Connected and Automated Vehicles", University of Utah Freshman Engineering Scholar Program Tour, Salt Lake City, UT.

[14]. **Xianfeng Yang**, (2017), "Network Traffic Flow Control: Existing Problems and New Challenges", University of Utah, Salt Lake City, UT.

[15]. **Xianfeng Yang**, (2016), "Integrated Wildfire Evacuation System with Social Perception Analysis and Dynamic Population Estimation", NSF Project Summer Workshop - Human Dynamics and Big Data, San Diego, CA.

[16]. **Xianfeng Yang**, (2016), "Traffic Management and Evacuation Planning", West Virginia University, Morgan Town, WV.

[17]. **Xianfeng Yang**, (2015), "Development of Multi-Modal Evacuation System", San Diego Office of Emergency Service, San Diego, CA.

[18]. **Xianfeng Yang**, (2015), "Traffic Management and Integrated Control for Congested Corridors", University of Louisville, Louisville, KY.

[19]. **Xianfeng Yang**, (2015), "Integration of Adaptive Signal Control and Off-ramp Priority Control for Commuting Corridors", San Diego State University, San Diego, CA.

II.D.2. Non-Refereed Presentations

[1]. Bahar Azin & **Xianfeng Yang**, (2019), "Integrated Wildfire Evacuation Decision Support System (IWEDSS) Framework Development by Link Transmission Modeling", NSF ASME Meeting, Salt Lake City, UT.

[2]. Yun Yuan, Hao Wang, Tian Zhao, Yang Liu. & **Xianfeng Yang**, (2019), "A Deep Model- based Deep Q-learning Algorithm for Traffic Signal Timing at Urban Intersection", INFORMS Annual Meeting, Seattle, WA.

[3]. Qinzheng Wang, **Xianfeng Yang***, Zhitong Huang, & Yun Yuan, (2019), "Multi-vehicle Trajectories Design During Cooperative Adaptive Cruise Control (CACC) Platoon Formation", 2019 Automated Vehicle Symposium, Orlando, FL.

[4]. **Xianfeng Yang*** & Yongjie Lin, (2015), "Dynamic Speed Control of Connected Vehicles to Enhance Operational Efficiency and Safety at Freeway Work-zones", the 7th Biennial Workshop on Digital Signal Processing for In-Vehicle Systems, San Francisco, CA.

[5]. **Xianfeng Yang*** & Yongjie Lin, (2015), "Dynamic Speed Control of Connected Vehicles to Enhance Operational Efficiency and Safety at Freeway Work-zones, the 7th Biennial Workshop on Digital Signal Processing for In-Vehicle Systems, San Francisco, CA.

[6]. **Xianfeng Yang***, (2015), "Integrated Corridor Signal Control of Freeway off-ramp and Local Arterial", 94th Transportation Research Board Annual Meeting, Washington D. C.

[7]. **Xianfeng Yang**, Yao Cheng*, Gang-Len Chang, & Saed Rahwanji, (2014), "Maryland Unconventional Intersection Design (MUID): A Useful Tool to Design and Evaluate Alternative Intersections", Alternative Intersection & Interchange Symposium, Salt Lake City, Utah.

[8]. Gang-Len Chang*, **Xianfeng Yang**, & Saed Rahwanji, (2014), "Development of a Multi- stage Design System for Diverging Diamond Interchange", Alternative Intersection & Inter- change Symposium, Salt Lake City, Utah.

[9]. **Xianfeng Yang***, Xiyang Song, Hyeonmi Kim, Gang-Len Chang, & Saed Rahwanji, (2014), "Design and Performance Evaluation for Superstreet Intersections", Alternative Intersection & Interchange Symposium, Salt Lake City, Utah.

[10]. **Xianfeng Yang***, Yang Carl Lu, & Gang-Len Chang, (2014) "Integrated Control of an Urban Freeway Off-ramp and Neighboring Intersections", 20th Conference of the International Federation of Operational Research Societies (IFORS), Barcelona, Spain.

II.D.3. Workshops

[1]. **Xianfeng Yang** (Co-Chair), (2017), Artificial Intelligence for Connected Automated Vehicles, Association for the Advancement of Artificial Intelligence (AAAI) workshop, San Francesco, CA.

II.E. Professional and Extension Publications

II.E.1. Reports and Non-Refereed Monographs

[1]. Yaobang Gong, **Xianfeng Yang**, Pan Lu (2023), "Knowledge-based Machine Learning for Freeway COVID-19 Traffic Impact Analysis and Traffic Incident Management", Mountain-Plains Consortium, US Department of Transportation University Center.

[2]. Yaobang Gong, **Xianfeng Yang**, (2023), Development of Crash Modification Factors (CMFs) for Utah Intersections, Utah Department of Transportation.

[3]. Biao Kuang, Jianli Chen, Xianfeng Yang, (2022), "Mobile Phone-based Artificial Intelligence Development for Maintenance Asset Management", Utah Department of Transportation.

[4]. Taylor Li, Sirisha Kothuri, **Xianfeng Yang**, (2022), "Pedestrian Behavior Study to Advance Pedestrian Safety in Smart Transportation Systems Using Innovative LIDAR Sensors", National Institute for Transportation and Communities, US Department of Transportation University Center.

[5]. Qinzheng Wang, **Xianfeng Yang**, (2022), "Design and Evaluate Coordinated Ramp Metering Strategies for Utah Freeways", Mountain-Plains Consortium, US Department of Transportation University Center.

[6]. Bahar Azin, **Xianfeng Yang**, (2022), "Impact of Regulatory Hybrid Changeable Message Sign on Traffic Safety under Different Freeway Geometric Designs", Mountain-Plains Consortium, US Department of Transportation University Center.

[7]. Bahar Azin, **Xianfeng Yang**, (2022), "Impact of Connected Vehicle Technology on Traffic Safety under Different Highway Geometric Designs", Mountain-Plains Consortium, US Department of Transportation University Center.

[8]. Biao Kuang, Jianli Chen, **Xianfeng Yang** (2022), "Mobile Phone-based Artificial Intelligence Package for Maintenance Asset Data Collection", Utah Department of Transportation.

[9]. Taylor Li, **Xianfeng Yang**, (2022), "Utilizing Lidar Sensor to Detect Pedestrian Movements at Signalized Intersections", Utah Department of Transportation.

[10]. Qinzheng Wang, **Xianfeng Yang,** (2022), "Design and Evaluate Coordinated Ramp Metering Strategies for Utah Freeways", Utah Department of Transportation.

[11]. Yao-Jan Wu, **Xianfeng Yang**, Sirisha Kothuri, "Data-Driven Mobility Strategies for Multimodal Transportation", National Institute for Transportation and Communities, US Department of Transportation University Center.

[12]. Zhao Zhang, **Xianfeng Yang**, & Yun Yuan, (2021) "Investigation of Secondary Crash along Highways in Utah. Utah Department of Transportation", Utah Department of Transportation.

[13]. Zhao Zhang, **Xianfeng Yang**, & Yun Yuan, (2021) "Methodology for Evaluating Intersection Safety & Operational Performance with Left-turn Phasing". Utah Department of Transportation.

[14]. Zhao Zhang, **Xianfeng Yang**, & Yun Yuan, (2021) "Utilizing Machine Learning to Cross- check Traffic Data & understand Urban Mobility". Utah Department of Transportation.

[15]. Bahar Azin, **Xianfeng Yang**, & Yun Yuan, (2021) "I-80 Hybrid CMS Regulatory Speed Limit Design and VSL System Evaluation". Utah Department of Transportation.

[16]. Bahar Azin, **Xianfeng Yang**, & Yun Yuan, (2020) "Multi-Stage Algorithm for Detection- Error Identification and Data Screening". Utah Department of Transportation.

[17]. Qinzheng Wang, **Xianfeng Yang**, & Yun Yuan, (2020) "Transit signal progression algorithm for supporting Redwood Road Transit Signal Priority". Utah Department of Transportation.

[18]. Qinzheng Wang, **Xianfeng Yang**, Cathy Liu, & Yun Yuan, (2020) "Understanding Connected and Automated Vehicle's Impact on Transportation Planning". Utah Department of Transportation.

[19]. Zhao Zhang, **Xianfeng Yang**, Cathy Liu, & Yun Yuan, (2019) "Investigation of Utah High- way Speed Limit Compliance Rate and Evaluation of Speed Limit Design in Towns along Highways". Utah Department of Transportation.

[20]. Zhao Zhang, **Xianfeng Yang**, Cathy Liu, & Yun Yuan, (2019) "Assessment of the Effectiveness of Wrong Way Driving (WWD) Detection System". Utah Department of Transportation.

[21]. **Xianfeng Yang**, Mingyue Ji, & Qinzheng Wang, (2019) "Connected Vehicle System Design for Signalized Arterials". Portland, OR: Transportation Research and Education Center (TREC).

[22]. **Xianfeng Yang**, Zhehao Zhang, & Zhao Zhang, (2018) "Vehicle Sensor Data (VSD) Based Traffic Control in Connected Automated Vehicle (CAV) Environment". NITC-RR-1175. Portland, OR: Transportation Research and Education Center (TREC).

[23]. Gang-Len Chang, Yang Lu, & **Xianfeng Yang**, (2011), "An Integration Computer System for Analysis, Selection, and Evaluation of Unconventional Intersections", Maryland SHA.

II.E.2. Pre-print / Working Paper

[1]. Yun Yuan, Qinzheng Wang, **Xianfeng Yang**, (2020), Modeling stochastic microscopic traffic behaviors: a physics regularized Gaussian process approach, arXiv preprint arXiv:2007.10109.

[2]. Yun Yuan, Qinzheng Wang, **Xianfeng Yang**, (2020) Highway traffic state estimation using physics regularized Gaussian process: Discretized formulation, arXiv preprint arXiv:2007.07762.

II.F. Sponsored Research and Programs – Administered by the Office of Research Administration (ORA).

II.F.1. Grants at University of Maryland

ID	Sponsor	Dates	Project Title	Role	$ Awarded	$ to me
1	MDOT SHA[1]	05/23-04/22	Evaluating MDOT SHA's Facility Maintenance Technician's (FMT) Training Program	PI; Co-PI: Paul Schonfeld, Cinzia Cirillo	$136,983	$109,026
2	MDOT SHA	04/23-04/22	Improving Roadway Debris Clearance for CHART Responders	PI	$210,360	$210,360
3	MDOT SHA	05/23-04/22	Developing a Knowledge-based System for Guiding Design, Operations and Evaluation of Highway Work Zones	Co-PI; PI: Gang-Len Chang	$175,000	$43,750
4	NSF[2]	08/22-09/24	OAC Core: Stochastic Simulation Platform for Assessing Safety Performance of Autonomous Vehicles in Winter Seasons	PI; Co-PI: Xiaobai Liu at SDSU[7]	$499,604	$296,575
5	NSF	08/22-02/26	CAREER: Physics Regularized Machine Learning Theory: Modeling Stochastic Traffic Flow Patterns for Smart Mobility Systems	PI	$538,633	$538,633
6	UDOT[3]	11/22-06/24	Identifying Near-Misses and Reducing Conflict Through D-FYA at Signalized Intersection Using LIDAR Sensors*	Co-PI; PI: Xuan Zhu at UU[8]	$220,000	$80,000
7	FHWA[4]	05/23-04/24	The Baltimore City SS4A Action Plan: Modeling Injury and Health (through Baltimore City DOT-BC DOT) *	Co-PI	$1,005,453	$175,000
8	DOE[5]	09/22-12/24	Visual-Enhanced Cooperative Traffic Operations (VECTOR) System*	Co-PI; PI: Cami Li at USF[9]	$3,500,000	$501,745

9	USDOT[6]	07/23-06/28	Center for Multi-Modal Mobility in Urban, Rural and Tribal Areas (Lead)*	Co-PI; PI: Cinzia Cirillo	$2M yearly and $10M in total	$100,000 (1st year)
10	USDOT	07/23-06/28	Sustainable Mobility and Accessibility Regional Transportation Equity Research Center (Consortium Member)*	Co-PI; PI: Cinzia Cirillo	$300,000 yearly and $1.5M in total	$40,000 (1st year)
	Total				$8,586,033+	$2,095,089+

Note:
*The project was selected, and it is pending or under contract.
+The total project amount doesn't account for the 2nd – 4th years' funding for the two USDOT UTC.
[1]Maryland Department of Transportation State Highway Administration.
[2]National Science Foundation.
[3]Utah Department of Transportation.
[4]Federal Highway Administration;
[5]Department of Energy.
[6]US Department of Transportation.
[7]San Diego State University.
[8]University of Utah.
[9]University of South Florida.

II.G. Gifts, and Funded Research not administered by ORA

II.G.1. Other: grants at the University of Utah (UU) and San Diego State University (SDSU)

ID	Sponsor	Dates	Project Title	Role	$ Awarded	$ to me
1	NSF	09/16-08/20	Integrated Stage-based Evacuation with Social Perception Analysis and Dynamic Population Estimation	Co-PI; PI: Ming-Hsiang Tsou at SDSU	$465,189	$112,300
2	FHWA	10/20-09/21	Automated Driving Systems (ADS) OEM-Industry Research Collaboration and Integrated Highway Prototype (CARMA IHP2), through Leidos INC.	PI	$65,000	$65,000
3	FHWA	10/20-06/22	Roadway Ice/snow Detection using a Novel Infrared Thermography Technology	Co-PI; PI: Xuan Zhu at UU	$139,249	$68,357
4	USDOT-MPC[1]	06/21-12-22	Knowledge-based Machine Learning for Freeway COVID-19 Traffic Impact Analysis and Traffic Incident Management	Co-PI; PI: Pan Lu at NDSU[3]	$168,843	$102,567
5	USDOT-MPC & UDOT	10/20-06/22	Design and Evaluate Coordinated Ramp Metering Strategies for Utah Freeways	PI	$120,000	$120,000
6	USDOT-MPC	08/19-06/22	Impact of Regulatory Hybrid Changeable Message Sign on Traffic Safety under Different Freeway Geometric Designs	PI	$75,000	$75,000
7	USDOT-MPC	08/18-06/22	Impact of Connected Vehicle Technology on Traffic Safety under	PI	$40,000	$40,000

			Different Highway Geometric Designs			
8	USDOT-NITC[2]	10/20-12-21	Pedestrian behavior study to advance pedestrian safety in smart transportation systems using innovative LIDAR sensors	Co-PI; PI: Taylor Li at UTA	$147,148	$43,275
9	USDOT-NITC	10/19-12/20	Data-Driven Mobility Strategies for Multimodal Transportation	Co-PI; PI: Yao-Jan Wu at ASU[4]	$137,608	$53,186
10	USDOT-NITC	08/18-10-19	Connected Vehicle System Design for Signalized Arterial	PI; Co-PI: Mingyue Ji at UU	$89,513	$47,807
11	USDOT-NITC	11/17-10/18	Small Start: Vehicle Sensor Data (VSD) Based Traffic Control in Connected Automated Vehicle (CAV) Environment.	PI	$20,000	$20,000
12	UDOT	09/21-12/22	Mobile Phone-based Artificial Intelligence Package for Maintenance Asset Data Collection	PI; Co-PI: Jianli Chen at UU	$50,000	$22,433
13	UDOT	09/21-12/22	Utilizing Lidar Sensor to Detect Pedestrian Movements at Signalized Intersections	PI; Co-PI: Taylor Li at UTA[5]	$60,000	$30,000
14	UDOT	09/21-12/22	Development of Crash Modification Factors (CMFs) for Utah Intersections	PI	$50,000	$50,000
15	UDOT	09/21-12/22	Transportation Benefits and Costs of Reducing Lane Widths on Urban and Rural Arterials	Co-PI; PI: Reid Ewing at UU	$50,000	$20,000
16	UDOT	09/20-12/21	Investigation of Secondary Crash along Highways in Utah	PI	$50,000	$50.000
17	UDOT	09/19-03/21	Methodology for Evaluating Intersection Safety and Operational Performance with Left-turn Phasing	PI	$50,000	$50,000
18	UDOT	06/19-03-21	I-80 Hybrid CMS Regulatory Speed Limit Signing Design and VSL System Evaluation	PI	$70,000	$70,000
19	UDOT	09/19-03/21	Utilizing Machine Learning to Cross-check Traffic Data and Understand Urban Mobility	PI	$50,000	$50,000
20	UDOT	06/18-10/20	Multi-Stage Algorithm for Detection-Error Identification and Data Screening	PI	$50,000	$50,000
21	UDOT	06/18-10/20	Transit Signal Progression Algorithm for Supporting Redwood Road TSP Implementation	PI	$60,000	$60,000
22	UDOT	06/18-10/19	Understanding Connected and Automated Vehicles' Impacts on Transportation Planning	PI	$40,000	$40,000

23	UDOT	12/17-05/19	Assessment of the Effectiveness of Wrong Way Driving (WWD) Detection System and Countermeasures	PI	$40,000	$40,000
24	UDOT	12/17-05/19	Investigation of Highway Speed Limit Compliance Rate and Evaluation of Current Practices on Setting up Speed Limit in Towns along Highways in Utah	PI	$30,000	$30,000
	Total				$2,117,550	$1,259,975

Note:
[1]US Department of Transportation University Transportation Center - Mountain-Plains Consortium.
[2]US Department of Transportation Center - National Institute for Transportation and Communities.
[3]North Dakota State University.
[4]Arizona State University.
[5]University of Texas at Arlington.

III. Teaching, Extension, Mentoring, and Advising

III.A. Courses Taught

Institution	Semester	Course	Enrolment	Student Evaluation
U of Maryland	Spring 2023	ENCE370, Introduction to Transportation Engineering and Planning	32 (undergrad)	Course: 3.4/4.0; Instructor: 3.5/4.0
U of Maryland	Fall 2023	ENCE 688V, Smart Mobility and Connected Communities	19 (grad)	Course: 3.9/4.0; Instructor: 3.9/4.0
U of Utah	Spring 2022	CVEEN 5920 Smart City & Infrastructure.	8 (grad)	Course: 5.8/6.0; Instructor: 6.0/6.0
U of Utah	Spring 2022	CVEEN 3520. Transportation Engineering	15 (undergrad)	Course: 4.8/6.0; Instructor: 5.0/6.0
U of Utah	Fall 2021	CVEEN 3520 Transportation Engineering	39 (undergrad)	Course: 5.4/6.0; Instructor: 5.3/6.0
U of Utah	Spring 2021	CVEEN 5920 Smart City & Infrastructure	11 (grad)	No rating due to the new system
U of Utah	Spring 2021	CVEEN 3520 Transportation Engineering	20 (undergrad)	Top Undergrad Teacher Award
U of Utah	Fall 2020	CVEEN 3520 Transportation Engineering	35 (undergrad)	Course: 5.6/6.0; Instructor: 5.5/6.0
U of Utah	Spring 2020	CVEEN 3520 Transportation Engineering	25 (undergrad)	5.0/6.0; Instructor: 5.1/6.0

U of Utah	Spring 2020	CVEEN 5920, Smart City & Infrastructure	8 (grad)	Course: 5.3/6.0; Instructor: 5.5/6.0
U of Utah	Fall 2019	CVEEN 6920, Optimization in Transportation	9 (grad)	Course: 5.3/6.0; Instructor: 5.4/6.0
U of Utah	Spring 2019	CVEEN 3520 Transportation Engineering	14 (undergrad)	Course: 5.26/6.0; Instructor: 5.2/6.0
U of Utah	Fall 2018	CVEEN 6920 Optimization in Transportation	8 (grad)	Course: 5.5/6.0; Instructor: 5.6/6.0
U of Utah	Spring 2018	CVEEN 3520 Transportation Engineering	20 (undergrad)	Course: 5.5/6.0; Instructor: 5.6/6.0
U of Utah	Fall 2017	CVEEN 6920 Optimization in Transportation	8 (grad)	Course: 5.6/6.0; Instructor: 5.7/6.0

III.B. Teaching Innovations

III.B.1. Software, Applications, Online Education, etc.

[1]. Developed an application (computer program) for network traffic assignment. The application was used by ENCE 370 students to complete their first course project in transportation planning at the U of Maryland.

[2]. Provided streaming live and in-person courses to ENCE 370 students when someone cannot attend the class in-person (e.g., due to sick leave) at the U of Maryland.

[3]. Offered hybrid (steaming live and in-person) classes to CVEEN 3520 students during the COVID pandemic at the U of Utah.

III.B.2. Course or Curriculum Development

[1]. Developed a new graduate level course, ENCE 688V Smart Mobility and Connected Communities at the U of Maryland.

[2]. Developed a new curriculum for the undergraduate level course, ENCE 370, Introduction to Transportation Engineering and Planning at the U of Maryland.

[3]. Developed two new courses, CVEEN 6920 Optimization in Transportation and CVEEN 5920 Smart City & Infrastructure at the U of Utah

III.C. Advising: Research or Clinical

III.C.1. Undergraduate

[1]. Ryan Kinloch, will start in Fall 2023, University of Maryland, Advisor.

III.C.2. Master's

[1]. Yuanzheng Lei, Fall 2022 – Present, University of Maryland, Advisor and Committee Chair; transfer to Ph.D. program in Fall 2023.

[2]. Zhehao Zhang, Fall 2017 – Spring 2019, University of Utah, Advisor and Committee Chair. Thesis Title: Freeway Traffic Optimal Control with Mixed Connected Automated Vehicles and Human-driven Vehicles.

[3]. Zhixuan Huang, Fall 2019 – Spring 2020, University of Utah, Committee Member. Thesis Title: A GIS-based Approach for Modeling Autonomous Shuttle Station Siting and Hurricane Evacuation Routes in Lee County, Florida.

[4]. Nuzhat Azra, Spring 2018 – Fall 2018, University of Utah, Committee Member. Current Thesis Title: Disaggregation of Intersection Crash Data: An Approach Based Crash Frequency and Crash Rate Analysis.

[5]. Jayesh Dongre, Fall 2015 – Spring 2017, San Diego State University, Advisor and Committee Chair. Thesis Title: Traffic Signal Progression Model for Urban Network: Intersection Grouping and Coordination.

III.C.3. Doctoral

As Advisor and Committee Chair

Student	Time	Dissertation Title	Graduation or Candidacy
Zhao Zhang (UU)	Spring 2018 – May 2022	Freeway Traffic Flow Modeling and Forecasting Using Physics-Guided Machine Learning	Graduated with Ph.D. degree (Best Dissertation Award, TRB AED50)
Qinzheng Wang (UU)	Fall 2018 – May 2022	Adaptive and Multi-Path Progression Traffic Signal Control and Connected Automated Vehicle Trajectory Optimization under Mixed Traffic Environment	Graduated with Ph.D. degree
Bahar Azin (UU)	Spring 2019 – Fall 2022	Integrated Charging Facility Planning and Incentive-based Demand Management for Electric Vehicles	Graduated with Ph.D. degree
Sayantan Tarafdar (UMD)	Fall 2021 – Present	Electric Vehicle Charging Facility Planning and Operation over Coupled Transportation and Power Networks	Candidacy at U of Utah; will take the qualify exam at UMD in August, 2023
Kaitai Yang (UMD)	Spring 2022 – Present	Connected Automated Vehicle Trajectory Control under Inclement Weather Condition	Will take the qualify exam at UMD in August, 2023
Qiwei Zhang (UMD)	Fall 2022 – Present	Urban Mobility Pattern Modeling and Prediction with Machine Learning	Will take the qualify exam at UMD in August, 2023
Yi Zhang (UMD)	Fall 2022 – Present	Cooperative Driving Automation under Mixed Connected Automated Vehicle Environment	Will take the qualify exam at UMD in August, 2023

Kuenmin Cho (UMD)	Fall 2022 – Present	Impact of Sea Level Rise on Transportation Network Resilience and Home Isolation	Will take the qualify exam at UMD in August, 2023
Yuanzheng Lei (UMD)	Starts in Fall 2023	Eco-trajectory Planning and Control for Connected Automated Vehicles	Will take the qualify exam at UMD in January, 2024
Dianwei Cheng (UMD)	Starts in Fall 2023	To be determined	To be decide
Yangzhe Kong (UMD)	Starts in Fall 2023	To be determined	To be decide

As Committee Member

Student	**Time**	**Dissertation Title**	**Graduation or Candidacy**
Fahmid Hossain (UU)	Fall 2016 – May 2022	Development of a Methodology to Validate and Calibrate a Proactive Systemic Approach to Road Safety Management	Graduated with Ph.D. degree
Jiayue Xue (UU)	Fall 2017 – May 2021	Numerical and Data Based Approach to Estimate Power Infrastructure Failure During a Hurricane and its Impact to Power Transmission System	Graduated with Ph.D. degree
Farzana Chowdhury (UU)	Fall 2017 – Summer 2022	A Sustainable and Equitable Transportation System Design Under Connected Vehicle and Big Data-Driven Environment	Graduated with Ph.D. degree
Fei Wu (UMD)	Fall 2019 – Summer 2023	Selection and scheduling of interrelated network improvement projects under uncertainties	Graduated with Ph.D. degree
Peiqi Zhang (UMD)	Fall 2020 - Present	Distributed Computing and Machine Learning Approaches for Analyzing Human Mobility using Big Trajectory Data	Ph.D. Candidate
Saeed Namadi (UMD)	Fall 2020 - Present	Changes in Commuter Behavior from Mobile Phone Location Data (COVID-19 Lockdowns)	Ph.D. Candidate

III.C.4. Post-doctoral

[1]. Yaobang Gong, University of Maryland, 05/2023– Present; University of Utah 06/2021 – 05/2023

[2]. Yun Yuan, 07/2019 – 06/2021, University of Utah

III.C.5. Other Directed Research

[3]. Aaron Wang, 06/2021 – 07/2022, Highschool Student Intern

III.C.6. Guest Lectures *(Presented in traditional classes or for someone else's program)*

[1]. Guest Lecture, ENCE100 Introduction to Civil and Environmental Engineering, Fall 2022

III.D. Teaching Awards

[1]. Top Undergraduate Teachers in College of Engineering, Spring 2021, University of Utah

IV. Service and Outreach

IV.A. Editorships, Editorial Boards, and Reviewing Activities

IV.A.1. Editorships

[1]. 2023 – present, Associate Editor, Frontiers in Future Transportation

[2]. 2020 – present, Associate Editor, ASCE Journal of Urban Planning and Development

[3]. 2019 – present, Associate Editor, IEEE Open Journal Intelligent Transportation Systems

[4]. 2019 – present, Handling Editor, Journal of Transportation Research Board: Transportation Research Record

[5]. 2021 – present, Paper Review Coordinator, TRB Disaster Response, Emergency Evacuations, and Business Continuity Committee (AMR 20) Annual Meeting paper submissions

[6]. 2019 – 2020, Paper Review Coordinator, TRB Emergency Evacuation Committee (ABR 30) Annual Meeting paper submissions.

[7]. 2018 – present, Paper Review Coordinator, TRB Traffic Signal System committee (AHB 25), Transportation Research Board Annual Meeting paper submissions.

[8]. 2017 – 2019, Sub Editor, International Journal of Engineering Research in Mechanical and Civil Engineering

IV.A.2. Editorial Boards

[1]. 2021 – present, Editorial Board Member, Transportation Research Part C

[2]. 2018 – 2020, Editorial Board Member, ASCE Journal of Urban Planning and Development

IV.A.3. Reviewing Activities for Journals and Presses

[1]. IEEE Transactions on Intelligent Transportation Systems

[2]. IEEE Transactions on Intelligent Transportation Systems Magazine

[3]. IEEE Transactions on Vehicular Technology

[4]. PLOS One

[5]. Journal of Intelligent Transportation Systems: Technology, Planning, and Operations

[6]. ASCE Journal of Transportation Engineering Part A

[7]. Journal of Advanced Transportation

[8]. Transportation Science

[9]. Transportation Research Part A

[10]. Transportation Research Part B

[11]. Transportation Research Part C

[12]. Transportation Research Part D

[13]. Transportation Research Part E

[14]. Transportmetrica Part A

[15]. Transportmetrica Part B

[16]. Networks and Spatial Economics

[17]. Journal of the Transportation Research Board

[18]. ASCE Journal of Computing in Civil Engineering

[19]. ASCE Journal of Urban Planning and Development

[20]. Advances in Mechanical Engineering

[21]. Logistics

[22]. Journal of Traffic and Transportation Engineering

[23]. Journal of Engineering

[24]. Computers, Environment and Urban Systems

IV.A.4. Reviewing Activities for Agencies and Foundations

[1]. National Science Foundation

[2]. National Cooperative Highway Research Program

IV.A.5. Reviewing Activities for Conferences

[1]. 2023, 25th International Symposium on Transportation and Traffic Theory

[2]. 2012-2023, 91st-102nd Transportation Research Board Annual Meeting

[3]. 2019-2022, IEEE International Conference on Intelligent Transportation - ITSC

[4]. 2018, International Conference on Transportation & Development

[5]. 2015, 15th COTA International Conference of Transportation Professionals 2015

[6]. 2014, ITS World Congress • 2014 International Symposium on Highway Geometric Design

IV.B. Committees, Professional & Campus Service

IV.B.1. Campus Service – Department

[1]. Fall 2022 – present, Secretary, Faculty and Staff Meeting, University of Maryland

[2]. Fall 2022, Committee Member, Department Graduate Student Scholarship, University of Maryland

[3]. Summer 2022, Session Trainer, Transportation Summer Camp, University of Utah

[4]. Spring 2021, Presenter, Civil Engineering Graduate Recruitment Event, University of Utah

[5]. Fall 2018 – Spring 2022, Member, ABET & Undergraduate Committee, University of Utah

[6]. Fall 2019 – Spring 2022, Member, Undergraduate Recruitment and Outreach Committee, University of Utah

[7]. Fall 2017 – Spring 2019, Member, Department Scholarship Committee, University of Utah

IV.B.2. Campus Service – College

[1]. April 2023 – Present, Committee Member, Engineering Diversity & Inclusion Committee, University of Maryland

[2]. May 2023 - Present, Clark School Senate, CEE TTK seat, University of Maryland

[3]. November 2021, Event Presenter, Engineering Day, University of Utah

[4]. June 2021, Organizer, Autonomous Vehicle Demonstration Session, College Hi-Gear Recruitment Event, University of Utah

[5]. November 2020, Event Presenter, Engineering Day, University of Utah

[6]. December 2018, Event Presenter, Engineering Day, University of Utah

[7]. October 2017, Event Presenter, Freshman Engineering Scholar Program (ESP) Tours, University of Utah

[8]. December 2017, Event Presenter, Engineering Day, University of Utah

IV.B.3. Campus Service – University

[1]. May 2023, Faculty Attendance, Campuswide Commencement Ceremony, University of Maryland.

[2]. February 2023, Presenter, Gemstone Honors Program project session, University of Maryland

IV.B.4. Leadership Roles in Meetings and Conferences

[1]. 2019, Jul, Co-Organizer, Breakout Session: New Innovations in Intelligent Intersection Management with Cooperative Automation, Automated Vehicle Symposium 2019, Orlando, FL

[2]. 2018, Jul, Co-Organizer, Breakout Session: New Innovations in Intersection Control with Cooperative Automation, Automated Vehicle Symposium 2018, San Francisco, CA

[3]. 2017, Apr, Co-Chair, workshop: Artificial Intelligence for Connected Automated Vehicles, Association for the Advancement of Artificial Intelligence (AAAI)

IV.B.5. Other Non-University Committees, Memberships, Panels, etc.

[1]. 2021 – present Member, Standing Committee on Disaster Response, Emergency Evacuations, and Business Continuity (AMR 20), Transportation Research Board (TRB), National Academies of Sciences, Engineering, and Medicine

[2]. 2020 – present, Secretary & Voting member, Artificial Intelligence for Transportation Committee, American Society of Civil Engineers (ASCE)

[3]. 2021 – 2023, Chair, INFORMS-TSL-Special Interest Groups-Intelligent Transportation Systems Group

[4]. 2019 – 2021, Vice Chair, INFORMS-TSL-Special Interest Groups-Intelligent Transportation Systems Group

[5]. 2018 – 2021, Member, Emergency Evacuation Committee (ABR 30), Transportation Research Board (TRB), National Academies of Sciences, Engineering, and Medicine

[6]. 2017 – present, Member, Traffic Signal System committee (ACP 25), Transportation Research Board (TRB), National Academies of Sciences, Engineering, and Medicine

[7]. 2018 – present, Panelist, National Cooperative Highway Research Program (NCHRP)

[8]. 2018 – present, Panelist, National Science Foundation (NSF), Programs/Solicitations: Cyber-Physical Systems, Civil Infrastructure Systems, Cyberinfrastructure for Sustained Scientific Innovation, Civic Innovation Challenge, Major Research Instrumentation, Accelerating Research through International Network-to-Network Collaborations, Humans, Disasters, and the Built Environment

[9]. 2021 – Present, Associate Member, American Society of Civil Engineers

[10]. 2019 – Present, Member, INFORMS

[11]. 2019 – 2020, Member, American Society for Engineering Education

IV.C. External Service and Consulting

IV.C.1. Consultancies *(to local, state and federal agencies; companies; organizations)*

[1]. 2021 – 2022, Consultant, Transport Group, World Bank

IV.D. Service Awards and Honors

[1]. 2022, Advisor of Best Ph.D. Dissertation Award, TRB AI Committee

[2]. 2021, Top Undergrad Teacher Award, College of Engineering, University of Utah

[3]. 2018, Transportation Research Part A 2017 Outstanding Reviewer

[4]. 2018, Transportation Research Part C 2017 Outstanding Reviewer

[5]. 2018, Transportation Research Part E 2017 Outstanding Reviewer

[6]. 2018, ASCE Journal of Transportation 2017 Outstanding Reviewer

[7]. 2017, National Science Foundation CPS Program Workshop Travel Award

[8]. 2015, GREW Fellowship, San Diego State University

[9]. 2015, CEE Fellowship, University of Maryland

[10]. 2015, Best Ph.D. Research Award, University of Maryland

[11]. 2014, CEE Fellowship, University of Maryland

[12]. 2013, Future Faculty Fellowship, University of Maryland

[13]. 2012, CEE Fellowship, University of Maryland