Xianyuan **Zhan**

Curriculum Vitae

Institute for AI Industry Research (AIR), Tsinghua University

12/F, Block C, Qidi Science and Technology Mansion, Haidian District, Beijing, China

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Research Interests

Offline Deep Reinforcement Learning, Complex System Optimization, Urban Computing, Big data Analytics in Transportation, Intelligent Transportation Systems, Complex Networks

Education

Doctor of Philosophy   *Jan. 2013 - Aug. 2017*

PURDUE UNIVERSITY

Transportation Systems, Civil Engineering. Advisor: Dr. Satish V. Ukkusuri

Master of Science   *Jan. 2014 - Dec. 2016*

PURDUE UNIVERSITY

Computer Science

Master of Science in Engineering   *Aug. 2011 - Dec. 2012*

PURDUE UNIVERSITY

Transportation Systems, Civil Engineering

Bachelor of Engineering   *Aug. 2007 - Jul. 2011*

TSINGHUA UNIVERSITY   *Beijing, China*

Civil Engineering

Professional Experience

Research Assistant Professor   *Jul. 2021 - Present*

TSINGHUA UNIVERSITY   *Beijing, China*

Institute for AI Industry Research

Data Scientist   *Jan. 2018 - Present*

JD TECHNOLOGY   *Beijing, China*

JD iCity, JD Intelligent City Research

Research Associate   *Aug. 2017 - Jan. 2018*

MICROSOFT RESEARCH ASIA   *Beijing, China*

Urban Computing Group

Research Assistant   *Aug. 2011 - Aug. 2017*

PURDUE UNIVERSITY   *West Lafayette, US*

Lyles School of Civil Engineering

Teaching Assistant   *SPRING 2013, FALL 2015*

PURDUE UNIVERSITY   *West Lafayette, US*

Lyles School of Civil Engineering

Visiting Research Fellow   *May. - Aug. 2015*

MICROSOFT RESEARCH ASIA   *Beijing, China*

Mentor: Dr. Yu Zheng

Research Assistant   *Jun. 2009 - Jan. 2011*
TSINGHUA UNIVERSITY   *Beijing, China*
3S (GNSS/RS/GIS) Research Center

Honors & Awards

2022	2022 Global Top Chinese Young Scholars in Artificial Intelligence (AI+X)	*Baidu*
2022	3rd Prize of Wu Wen Jun AI Science & Technology Award	*CAAI*
2021	Committee Member of Intelligent Vehicles of China Computer Federation (CCF)	*CCF*
2020	2019 Synced Machine Intelligence Awards: 30 Best AI Use Cases of the Year	*SYNCED*
2018	Artificial Intelligence Innovation Award	*CAIS 2018*
2018	Committee Member of Technical Committee on Artificial Intelligence & Pattern Recognition of China Computer Federation (CCF-AI)	*CCF*
2016	James S. McDonnell Foundation (JSMF) Postdoctoral Fellowship Award in Studying Complex Systems	*James S. McDonnell Foundation*
2014	Pai Tao Yeh Fellowship	*Purdue University*
2013	Pai Tao Yeh Fellowship	*Purdue University*
2010	2nd Prize of Fifth National Competition of Transport Science and Technology	*China*
2010	Gammon Scholarship	*Tsinghua University*
2009	Zheng Ge Ru Scholarship	*Tsinghua University*
2008	Gammon Scholarship	*Tsinghua University*

Publications

CONFERENCE PROCEEDINGS

1. Xu, H., **Zhan, X.**, Yin, H., and Qin, H. Discriminator-Weighted Offline Imitation Learning from Suboptimal Demonstrations. Accepted in the *Thirty-ninth International Conference on Machine Learning (ICML22)*.

2. **Zhan, X.**, Zhu, X. and Xu, H. Model-Based Offline Planning with Trajectory Pruning. Accepted in *31st International Joint Conference on Artificial Intelligence and the 25th European Conference on Artificial Intelligence (IJCAI-ECAI 22)*.

3. **Zhan, X.**, Xu, H., Zhang, Y., Zhu, X. and Yin, H. DeepThermal: Combustion Optimization for Thermal Power Generating Units Using Offline Reinforcement Learning. In *Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI2022)*

4. Xu, H., **Zhan, X.**, and Zhu, X. Constraints Penalized Q-Learning for Safe Offline Reinforcement Learning. In *Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI2022)*.

5. Qin, H., **Zhan, X.**, Li, Y., Yang, X. and Zheng, Y. Network-Wide Traffic States Imputation Using Self-interested Coalitional Learning. In *Proceedings of the 27th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD'21)*, August 14–18, 2021, Virtual Event, Singapore. https://doi.org/10.1145/3447548.3467424.

6. Qin, H., Ke, S., Yang, X., Xu, H., **Zhan, X.**, and Zheng, Y. Robust Spatio-Temporal Purchase Prediction via Deep Meta Learning. In *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI2021)* 35 (5), 4312-4319.

7. Yang, C., Zhang, Y., **Zhan, X.**, Ukkusuri, S. V., and Qiu, W. Activity Chain Inference Using Travel Survey and Mobile Phone data. In *Proceedings of Transportation Research Board Meeting*, Washington D.C., January 2017.

8. Zischg, J., Klinkhamer, C., **Zhan, X.**, Krueger, E., Ukkusuri, S., Rao, P. S. C., Rauch, W. and Sitzenfrei, R. Evolution of Complex Network Topologies in Urban Water Infrastructure. In *World Environmental and Water Resources Congress 2017*, Sacramento, May 2017.

9. **Zhan, X.**, Ukkusuri, S. V. A Probabilistic Urban Link Travel Time Estimation Model Using Large-scale Taxi Trip Data. In *Proceedings of 94th Transportation Research Board Meeting*, Washington D.C., January 2015.

10. **Zhan, X.**, Qian, X., Ukkusuri, S. V. Measuring the Efficiency of Urban Taxi Service System. In *Proceedings of the 3rd ACM SIGKDD International Workshop on Urban Computing*, New York, August 2014.

11. Qian, X., **Zhan, X.**, Ukkusuri, S. Characterizing Urban Dynamics Using Large Scale Taxicab Data. In *Proceedings of 93nd Transportation Research Board Meeting*, Washington D.C., January 2014.

12. **Zhan, X.**, Ukkusuri, S. V. Multi-User Class, Simultaneous Route and Departure Time Choice Dynamic Traffic As-

signment with an Embedded Spatial Queuing Model. *5th International Symposium on Dynamic Traffic Assignment*. Salerno, Italy, June, 2014.

13. Hasan, S., **Zhan, X.**, and Ukkusuri, S. V. Understanding Urban Human Activity and Mobility Patterns Using Large-scale Location-based Data from Online Social Media. *Proceedings of the 2nd ACM SIGKDD International Workshop on Urban Computing*, 2013.

Journal Publications

1. Qin, H., **Zhan, X.**, and Zheng, Y. CSCAD: Correlation Structure-based Collective Anomaly Detection in Complex System. Accepted in *IEEE Transactions on Knowledge and Data Engineering (TKDE)*.

2. **Zhan, X.**, Li, R., and Ukkusuri, S. V., 2020. Link-based Traffic State Estimation and Prediction for Arterial Networks Using License-plate Recognition Data. *Transportation Research Part C: Emerging Technologies*, 117, 102660.

3. Yang, C., Zhang, Y., **Zhan, X.**, Ukkusuri, S. V. and Chen, Y., 2020. Fusing Mobile Phone and Travel Survey Data to Model Urban Activity Dynamics. Accepted in *Journal of Advanced Transportation*.

4. **Zhan, X.**, and Ukkusuri, S. V., 2019. Spatial Dependency of Urban Sprawl and the Underlying Road Network Structure. *Journal of Urban Planning and Development*, 145(4), 04019014.

5. Zischg, J., Klinkhamer, C., **Zhan, X.**, Rao, S. C., and Sitzenfrei, R., 2019. A Century of Topological Co-Evolution of Complex Infrastructure Networks in an Alpine City. *Complexity*, 2019, 2096749.

6. Gehlot, H., **Zhan, X.**, Qian, X., Thompson, C., Kulkarni, M. and Ukkusuri, S. V., 2018. A-Rescue 2.0: A High Fidelity, Parallel, Agent-based Evacuation Simulator. *Journal of Computing in Civil Engineering*, 33(2), 04018059.

7. **Zhan, X.**, Ukkusuri, S. V., and Rao, S. C., 2017. Dynamics of Functional Failures and Recovery in Complex Road Networks. *Physical Review E*, 96(5), 052301.

8. **Zhan, X.**, and Ukkusuri, S. V., 2017. Multiclass, Simultaneous Route and Departure Time Choice Dynamic Traffic Assignment with an Embedded Spatial Queuing Model. *Transportmetrica B: Transport Dynamics*, doi: 10.1080/21680566.2017.1354738.

9. Mo, B., Li, R., **Zhan, X.**, 2017. Speed Profile Estimation Using License Plate Recognition Data. *Transportation Research Part C: Emerging Technology*, 82, 358–378.

10. Kreuger, E., Klinkhamer, C., Urich C., **Zhan, X.**, and Rao, S. C., 2017. Generic Patterns in the Evolution of Urban Water Networks: Evidence from a Large Asian City. *Physical Review E*, 95(3), 032312.

11. Li, R. Ye, Z., Li. B. and **Zhan, X.**, 2017. Simulation of Hard Shoulder Running Combined with Queue Warning During Traffic Accident with CTM model. *IET Intelligent Transport Systems*, 11(9), 553-560.

12. **Zhan, X.**, Zheng, Y., Yi, X., and Ukkusuri, S. V., 2016. Citywide Traffic Volume Estimation Using Trajectory Data. *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 29(2), 272-285.

13. **Zhan, X.**, Qian, X., Ukkusuri, S. V., 2016. A Graph Based Approach to Measure the Efficiency of Urban Taxi Service System. *IEEE Transactions on Intelligent Transportation Systems*, 17(9), 2479-2489.

14. **Zhan, X.**, Ukkusuri, S., V., Yang, C., 2016. A Bayesian Mixture Model for Short-term Average Link Travel Time Estimation Using Large-scale Limited Information Trip-based Data. *Automation in Construction*, 72(3), 237-246.

15. Mesa-Arango, R., **Zhan, X.**, Ukkusuri, S. V., Mitra, A., 2016. Direct Transportation Economic Impacts of Highway Networks Disruptions Using Public Data from United States. *Journal of Transportation Safety & Security*, 8(1), 36-55.

16. Hasan, S., Ukkusuri, S., **Zhan, X.**, 2016. Understanding Social Influence in Activity-Location Choice and Life-Style Patterns Using Geo-location Data from Social Media. *Frontiers in ICT*, 3:10, doi: 10.3389/fict.2016.00010.

17. Aziz, H. M., Ukkusuri, S., **Zhan, X.**, 2016. Determining the Impact of Personal Mobility Carbon Allowance Schemes in Transportation Networks. *Network and Spatial Economics*, 17(2), 505-545.

18. Ukkusuri, S., Hasan, S., Doan, K., Luong, B., **Zhan, X.**, Murray-Tuite, P., Yin, W., 2016. A-RESCUE: An Agent-based Regional Evacuation Simulator Coupled with User Enriched Behavior. *Network and Spatial Economics*, 17(1), 197-223.

19. **Zhan, X.**, Aziz, H. M., Ukkusuri, S. V., 2015. An Efficient Parallel Sampling Technique for Multivariate Poisson-Lognormal Model: Analysis with Two Crash Count Datasets. *Analytic Methods in Accident Research*, 8, 45-60.

20. **Zhan, X.**, Li, R., Ukkusuri, S. V., 2015. Lane-based Real Time Queue Length Estimation Using License Plate Recognition Data. *Transportation Research Part C: Emerging Technology*, 57, 85-102.

21. **Zhan, X.**, Ukkusuri, S., V., Zhu, F., 2014. Inferring Urban Land Use Using Large-Scale Social Media Check-in Data. *Network and Spatial Economics*, 14, 647-667.

22. **Zhan, X.**, Hasan, S., Ukkusuri, S. V., Kamga, C., 2013. Urban Link Travel Time Estimation Using Large-scale Taxi Data

with Partial Information. *Transportation Research Part C: Emerging Technologies*, 33, 37-49.

23. Ukkusuri, S., **Zhan, X.**, Sadri A., Ye, Q., 2013. Exploring Crisis Informatics Using Social Media Data: A Study on 2013 Oklahoma Tornado. *Transportation Research Record*, 2459, 110-118.

Peer Reviewed Book Chapter

1. Qian, X, **Zhan, X.**, Ukkusuri, S. V. Characterizing Urban Dynamics Using Large Scale Taxicab Data. Engineering and Applied Sciences Optimization: Vol. 38, 17-32, Springer International Publishing, 2015.

2. Ukkusuri, S. V., Hasan, S., and **Zhan, X.** Checking the Urban Pulse: Social Media Data Analytics for Transportation Applications. Best Practices for Transportation Agency Use of Social Media Data. Taylor and Francis/CRC Press, 2013.

Theses

1. Novel Approaches to Model Congestion Evolution and Dependencies in Complex Road Networks. Ph.D. Dissertation, Purdue University, 2017.

2. Understanding the Aggregate Level Urban Activity Patterns Using Large-Scale Geo-Location Data. MS Thesis, Purdue University, 2012.

3. A Cellular Automaton Based Microscopic Traffic Flow Simulation Model for Abnormal Traffic Flow. Undergraduate Thesis, Tsinghua University, 2011.

Papers Under Review

1. Li, J., **Zhan, X.**, Xu, H., Zhu, X., Liu, J., and Zhang, Y. Distance-Sensitive Offline Reinforement Learning. Submitted to *Thirty-Sixth Annual Conference on Neural Information Processing Systems (NeurIPS 2022)*.

2. Niu, H., Sharma, S., Qiu, Y., Li, M., Zhou, G., Hu, J. and **Zhan, X.** When to Trust Your Simulator: Dynamics-Aware Hybrid Offline-and-Online Reinforcement Learning. Submitted to *Thirty-Sixth Annual Conference on Neural Information Processing Systems (NeurIPS 2022)*.

3. Xu, H., Li, J., Li, J. and **Zhan, X.** A Policy-Guided Imitation Approach for Offline Reinforcement Learning. Submitted to *Thirty-Sixth Annual Conference on Neural Information Processing Systems (NeurIPS 2022)*.

4. Qin, H., **Zhan, X.**, Li, Y., Xu, H., and Zheng, Y. Enhancing semi-supervised learning via self-interested coalitional learning. Submitted to *Thirty-Sixth Annual Conference on Neural Information Processing Systems (NeurIPS 2022)*.

5. Zhang, W., Xu, H., Niu, H., Cheng, P., Li, M., Zhou, G., and **Zhan, X.** Discriminator-Guided Model-Based Offline Imitation Learning. Submitted to *Conference on Robot Learning (CoRL 2022)*.

6. Wang, G., Niu, H., Zhu, D., Hu, J., **Zhan, X.**, and Zhou, G. A Versatile and Efficient Reinforcement Learning Framework for Autonomous Driving. Submitted to *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2022)*.

7. Jiang, L., Wang, X., Yang, A., Wang, X., Ye, X., Ouyang, Y., and **Zhan, X.** An Efficient Multi-Agent Optimization Approach for Coordinated Massive MIMO Beamforming. Submitted to *IEEE Global Communications Conference (GLOBECOM 2022)*.

Talks & Presentations

1. Data-Driven Decision Making for Real-World Scenarios. Invited talk at *Haomo AI Day*. April 2022, Beijing China.

2. DeepThermal: Combustion Optimization for Thermal Power Generating Units Using Offline Reinforcement Learning. *Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI2022)*. February 2022

3. Discriminator-Weighted Offline Imitation Learning from Suboptimal Demonstrations. *NeurIPS 2021 Deep RL Workshop*. December 2021.

4. Podcast interview at "TalkRL: The Reinforcement Learning Podcast" with Robin Chauhan. August 30, 2021.

5. Offline RL and Its Potential Applications in Healthcare Decision Making. Guest lecture at DeeCamp 2021. June 2021, online.

6. Network-Wide Traffic State Inference Using Emerging Urban Data Sources. Guest lecture at University of Central Florida. March 2021, online.

7. Application of Deep Reinforcement Learning in Control Optimization of Thermal Power Plants. *IEEE Services - Industry Symposium*. October 2020.

8. Urban Computing: Building Intelligent Cities with Big Data and AI. Invited talk at Tsinghua University. November

2019, Beijing, China.

9. Data-driven Methods in Urban Applications: New Problems, New Directions and New Approaches. Invited talk at Tsinghua University. December 2018, Beijing, China.

10. Spatio-Temporal Deep Learning in Intelligent Cities. *Smart Cities and Urban Computing Forum, China National Computer Congress (CNCC 2018)*. October 2018, Hangzhou.

11. Data-driven Optimization Models for Logistics in Urban Applications. *3rd Workshop on Applications of the Mathematical Modeling in Enterprises*. July 2018, University of Chinese Academy of Sciences, Beijing.

12. Data-driven Methods in Urban Transportation Applications. Invited talk at Tsinghua University. September 2017, Beijing, China.

13. A Vertex Split-Recovery Model for Congestion Evolution Process on Road Networks. *INFORMS 2016*. November 2016, Nashville.

14. Traffic State Estimation for Arterial Networks Using License-plate Recognition Data. *INFORMS 2016*. November 2016, Nashville.

15. A Node Split-Recovery Model for Congestion Evolution Process on Road Networks. *Resilience Week 2016*. August 2016, Chicago.

16. A Node Splitting-Recovery Model for Congestion Evolution Process on Road Networks. *4th International Symposium on Water, Feedbacks, and Complexity*. March 2016, Purdue University.

17. A Bayesian Mixture Model for Short-term Average Link Travel Time Estimation Using Large-scale Limited Information Trip-based Data. *INFORMS 2015*, November 2015, Philadelphia.

18. A Graph-based Approach to Measure the Efficiency of Urban Taxi Service System. *INFORMS 2015*, November 2015, Philadelphia.

19. Measuring the Efficiency of Urban Taxi Service System. *KDD 2014 International Workshop on Urban Computing*, August 2014, New York.

20. Urban Link Travel Time Estimation Using Large-scale Taxi Data with Partial Information. *MPE 2013+ Workshop on Sustainable Human Environments*. April 2014, Rutgers University.

21. Multiclass Dynamic User Equilibrium with a Path Based Cell Transmission Model for General Traffic Networks. *INFORMS 2013*, October 2013, Minneapolis.

22. Real Time Link Travel Time Estimation Using License-plate Recognition Data. *INFORMS 2013*, October 2013, Minneapolis.

Research Projects

Data-Driven Decision Making Under Complex Autonomous Driving Scenarios.
2022-Present

FUNDED BY HAOMO.AI

Research project manager for developing data-driven decision-making models under complex autonomous driving scenarios.

5G Massive MIMO Wireless Network Optimization.
2021-Present

FUNDED BY ASIAINFO

Technical lead for developing optimization algorithms to optimize 5G Massive MIMO Beamforming configurations. The developed optimization algorithms have been successfully deployed on 5,000 5G base stations in Tianjin by AsiaInfo. One research paper is submitted to IEEE GLOBECOM 2022.

Artificial Intelligence-based Optimization System for Thermal Power Generating Units.
2018-2020

FUNDED BY CNH ENERGY AND JD INTELLIGENT CITY RESEARCH

Research project manager for developing a deep reinforcement learning model and system to optimize power generation efficiency for thermal power generating units in power plants. Two research papers are published in *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI2022)*. This research has already finished software productization in JD Technology and been deployed in **6** power plants and **9** TPGUs in China.

Collective Anomaly Detection for Large-Scale Complex Sensory Systems. *2018*

JD INTELLIGENT CITY RESEARCH

Research project manager for developing a collective anomaly detection algorithm for very high dimensional sensory data in complex systems. Corresponding research paper is published in IEEE Transactions on Knowledge and Data Engineering (TKDE).

Bridging Information, Uncertainty and Decision-Making in Hurricanes Using an Interdisciplinary Perspective *2015 - 2017*

FUNDED BY NATIONAL SCIENCE FOUNDATION (NSF)

Project leader for developing parallelized large-scale agent-based traffic simulator for hurricane evacuation in urban road networks. Corresponding research paper is published in Journal of Computing in Civil Engineering.

Incorporating Household Decision Making with Dynamic Transportation Modeling in Hurricane Evacuation *2012 - 2015*

FUNDED BY NATIONAL SCIENCE FOUNDATION (NSF)

Participated in coding a Java-based large-scale agent-based traffic simulator for hurricane evacuation (A-RESCUE). Corresponding research paper is published in Network and Spatial Economics.

The Use of Large Scale Datasets for Understand Traffic Network State *2012 - 2013*

SPONSOR: UNIVERSITY TRANSPORTATION RESEARCH CENTER - REGION 2

Developed a real-time link travel time estimation model using large-scale taxi trip data from New York City. Corresponding research paper is published in Transportation Research Part C.

Collaborative Research Activities

Traffic Signal Optimization: A Data-driven and Deep Reinforcement Learning Approach *2017 - 2018*

COLLABORATED WITH DIDI CHUXING

1 patent granted.

Citywide Traffic Volume Estimation Using Large-scale Trajectory Data *2015 - 2016*

COLLABORATED WITH MICROSOFT RESEARCH ASIA (MSRA)

Corresponding research paper is published in IEEE Transactions on Knowledge and Data Engineering (TKDE).

Real Time Queue Length Estimation Using License-plate Recognition Data *2014 - 2015*

COLLABORATED WITH TSINGHUA UNIVERSITY, CHINA

Corresponding research paper is published in Transportation Research Part C.

The Use of Large-scale Dataset for Understanding Network State *2013*

COLLABORATED WITH THE CITY UNIVERSITY OF NEW YORK (CUNY)

Corresponding research paper is published in Transportation Research Part C.

Academic Activities

MEMBER OF EDITORIAL BOARD

- Journal of Big Data Analytics in Transportation: *Editorial Board Member*
- Frontiers in Built Environment - Transportation and Transit Systems: *Review Editor*

REVIEWER OF JOURNALS

- ACM Transactions on Intelligent Systems and Technology
- IEEE Transactions on Knowledge and Data Engineering (TKDE)
- IEEE Transactions on Big Data (TBD)
- IEEE Transactions on Knowledge Discovery from Data (TKDD)
- IEEE Transactions on Intelligent Transportation Systems (ITS)

- IEEE Transactions on Systems, Man and Cybernetics: Systems (SMC)
- IEEE Transactions on Mobile Computing (TMC)
- IEEE Signal Processing Letters
- IEEE Access
- PLOS ONE
- Transportation Research Part A: Policy and Practice
- Transportation Research Part B: Methodological
- Transportation Research Part C: Emerging Technologies
- Transportation Research Part D: Transport and Environment
- Transportmetrica B: Transport Dynamics
- European Journal of Operational Research
- Network and Spatial Economics
- Transportation
- Journal of Advanced Transportation
- Expert Systems With Applications
- Environment and Planning B: Urban Analytics and City Science
- IET Intelligent Transport Systems
- Journal of Physics: Complexity

Reviewer of Conferences
- Conference on Neural Information Processing Systems (NeurIPS): NeurIPS2022
- International Conference on Machine Learning (ICML): ICML2022
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS): IROS2022
- AAAI Conference on Artificial Intelligence: AAAI2021
- China Conference on Data Mining (CCDM): CCDM2021,2022
- IEEE International Conference on Intelligent Transportation (ITSC)
- IEEE Conference on Decision and Control
- Transportation Research Board Annual Meeting

Conference Program Committee
- China Conference on Data Mining (CCDM): CCDM2022

Chair of Conference Sessions
- **Session Chair**: Innovative Data Sources in Transportation. *INFORMS 2015*, November, Philadelphia.
- **Session Chair**: Advances in Transportation Network Modeling. *INFORMS 2015*, November, Philadelphia.

Teaching Experience

Course Lecturer at Tsinghua University
Tsinghua University
- **Future Automobiles (Global Open Course)** (Fall 2021): Data-driven Methods for Intelligent Urban Transportation Systems

Courses as Teaching Assistant at Purdue University
Lyles School of Civil Engineering, Purdue University
- **CE 597** (Fall 2015): The Science and Business of Logistics Systems
- **CE 398** (Spring 2013): Introduction to Civil Engineering System Design

Co-Instructor of a Summer Course   *Jun 2016*
School of Transportation Engineering, Tongji University, China
- **Summer Course**: Big Data Transportation Analytics

Instructor at Workshop *Jun. - Jul. 2015*

KOREA UNIVERSITY, SEOUL, SOUTH KOREA

Synthesis Workshop on "Dynamics of Structure and Functions of Complex Networks"

Students and Supervised Interns *2021 - Present*

INSTITUTE FOR AI INDUSTRY RESEARCH (AIR), TSINGHUA UNIVERSITY

- Jianxiong Li (2021-present), PhD student at Tsinghua University, China
- Wenjia Zhang (2021-present), PhD student at Tsinghua University, China
- Peng Cheng (2021-present), PhD student at Beijing Jiaotong University, China
- Jiang Li (2021-present), Master student at Tsinghua University
- Haoyi Niu (2021-present), Undergraduate student at Tsinghua University, China
- Weiye Xi (2021-present), Undergraduate student at Tsinghua University, China
- Yong Wang (2021), PhD student at Beijing Institute of Technology, China

Supervised Interns *2018 - 2021*

JD INTELLIGENT CITY RESEARCH

- Yixian Li (2018), Master student at Northeastern University, China
- Huilin Qin (2018-2020), PhD student at Xidian University, China
- Haoran Xu (2018-2020), Master student at Xidian University, China

Supervised Interns *2017*

MICROSOFT RESEARCH ASIA

- Huilin Qin (2017-2018), PhD student at Xidian University, China

Supervised Exchange Undergraduate Students at Purdue *2015*

LYLES SCHOOL OF CIVIL ENGINEERING, PURDUE UNIVERSITY

- Jingxing Wang (Jan. - Feb. 2015), from Tsinghua University, China
- Xiaodong Qian (Jun. - Sep. 2015), from Tsinghua University, China
- Victorial Mutran (Jul. - Aug. 2015), from Universidade do Estado do Pará, Brazil

Membership & Affiliations

Committee Member *2018 - Present*

Technical Committee on Artificial Intelligence & Pattern Recognition of China Computer Federation (CCF-AI)

Committee Member *2021 - Present*

Executive Committee on Intelligent Vehicles of China Computer Federation (CCF)

Member *2020 - Present*

Institute of Electrical and Electronics Engineers (IEEE)

Member *2018 - Present*

China Computer Federation (CCF)

Member *2013 - 2017*

INFORMS Chapter at Purdue University

Co-chair *2012 - 2014*

Tsinghua University Alumni Association of Purdue University