

Jiachen Li

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Education

University of California, Berkeley

Ph.D. in Robotics (Mechanical Engineering)

Academic advisor: Prof. Masayoshi Tomizuka

Berkeley, CA, USA

08/2016 - Present

Harbin Institute of Technology

B. Eng. in Automation (Honors School)

Academic advisors: Prof. Huijun Gao and Shen Yin

Harbin, China

08/2012 - 07/2016

Research Interests

Machine learning, optimization, computer vision approaches and their applications to behavior prediction, decision making and motion planning for multi-agent intelligent systems such as autonomous vehicles and robotics.

Research and Industry Experience

Honda Research Institute

Research Intern

Computer Vision and Behavior Prediction

San Jose, CA, USA

09/2019 - Present

University of California, Berkeley

Graduate Student Researcher

Mechanical Systems Control (MSC) Laboratory & Berkeley DeepDrive (BDD)

Berkeley, CA, USA

08/2016 - Present

Toyota Research Institute

Research Intern

Machine Learning and Perception Teams, Behavior Prediction

Los Altos, CA, USA

06/2019 - 08/2019

Harbin Institute of Technology

Research Assistant

Research Institute of Intelligent Control and System

Harbin, China

03/2014 - 06/2016

Teaching Experience

University of California, Berkeley

Graduate Student Instructor (Dynamic Systems and Control)

Berkeley, CA, USA

01/2017 - 05/2017

Harbin Institute of Technology

Teaching Assistant (Automatic Control Theory)

Harbin, China

09/2014 - 01/2015

Journal and Conference Publications

- J. Li, W. Zhan, Y. Hu and M. Tomizuka, "Generic Tracking and Prediction Framework and Its Application in Autonomous Driving", *IEEE Transactions on Intelligent Transportation Systems*, DOI:

10.1109/TITS.2019.2930310, early access, 2019.

- J. Li, H. Ma, and M. Tomizuka, "Conditional Generative Neural System for Probabilistic Trajectory Prediction", in *2019 IEEE Conference on Robotics and Systems (IROS)*, 2019.
- J. Li*, H. Ma* and M. Tomizuka, "Interaction-aware Multi-agent Tracking and Probabilistic Behavior Prediction via Adversarial Learning", in *2019 IEEE Conference on Robotics and Automation (ICRA)*, 2019.
- J. Li, H. Ma, W. Zhan and M. Tomizuka, "Coordination and Trajectory Prediction for Vehicle Interactions via Bayesian Generative Modeling", in *2019 IEEE Intelligent Vehicles Symposium (IV)*, 2019.
- H. Ma, J. Li, W. Zhan and M. Tomizuka, "Wasserstein Generative Learning with Kinematic Constraints for Probabilistic Interactive Driving Behavior Prediction", in *2019 IEEE Intelligent Vehicles Symposium (IV)*, 2019.
- J. Li, H. Ma, W. Zhan and M. Tomizuka, "Generic Probabilistic Interactive Situation Recognition and Prediction: From Virtual to Real", in *2018 IEEE International Conference on Intelligent Transportation Systems (ITSC)*, 2018.
- J. Li, W. Zhan and M. Tomizuka, "Generic Vehicle Tracking Framework Capable of Handling Occlusions Based on Modified Mixture Particle Filter", in *2018 IEEE Intelligent Vehicles Symposium (IV)(oral)*, 936-942, 2018.
- W. Zhan, L. Sun, Y. Hu, J. Li and M. Tomizuka, "Towards a Fatality-Aware Benchmark of Probabilistic Reaction Prediction in Highly Interactive Driving Scenarios", in *2018 IEEE International Conference on Intelligent Transportation Systems (ITSC)*, 2018.
- W. Zhan, J. Li, Y. Hu and M. Tomizuka, "Safe and Feasible Motion Generation for Autonomous Driving via Constrained Policy Net", in *Industrial Electronics Society, IECON 2017-43rd Annual Conference of the IEEE*, 4588-4593, 2017.
- J. Li, C. Duan and Z. Fei, "A Novel Variable Selection Approach for Redundant Information Elimination Purpose of Process Control", *IEEE Transactions on Industrial Electronics*, 63(3), 1737-1744, 2016.
- C. Duan, Z. Fei and J. Li, "A Variable Selection Aided Residual Generator Design Approach for Process Control and Monitoring", *Neurocomputing*, 171, 1013-1020, 2016.
- S. Shi, Z. Fei and J. Li, "Finite-time Hinf Control of Switched Systems with Mode-dependent Average Dwell Time", *Journal of the Franklin Institute*, 353(1), 221-234, 2016.

Invited Talks

- Inductive Bias in Behavior Prediction Models, CMU 08/2019

Awards and Honors

- Top Ten Outstanding Graduate at Harbin Institute of Technology (Top 1%) 2016
- Chunhui Innovation Fellowship (Top 1%) 2016
- Meritorious Winner, Mathematical/Interdisciplinary Contest in Modeling 2015

Professional Activities

- Co-organizer of Workshop on behavior prediction at *2019 IEEE IV* 2019
- Reviewer of *IEEE Transactions on Industrial Electronics* 2017 – Present
- Reviewer of *IEEE Transactions on Intelligent Transportation Systems* 2017 – Present
- Reviewer of *IEEE International Conference on Robotics and Automation (ICRA)* 2018 - Present
- Reviewer of *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)* 2019 - Present
- Reviewer of *IEEE Intelligent Vehicles Symposium (IV)* 2018 - Present

- Reviewer of *IEEE Conference on Intelligent Transportation Systems (ITSC)* 2018 - Present
- Research mentor of undergraduate students 2019 - Present

Affiliations

- Member of *IEEE Intelligent Transportation Systems Society (ITSS)* 2016 - Present
- Member of *IEEE Robotics and Automation Society (RAS)* 2016 - Present

Computer Skills

- **Programming:** Python, C & C++, MATLAB/Simulink
- **Deep Learning Framework:** TensorFlow, PyTorch, Caffe
- **Design and Simulation:** ROS, Multisim, AutoCAD, OrCAD