# Jiachen Li

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## Education

**University of California, Berkeley** **Berkeley, CA, USA**
*Ph.D. in Robotics (Mechanical Engineering)* *08/2016 - Present*
Academic advisor: Prof. Masayoshi Tomizuka

**Harbin Institute of Technology** **Harbin, China**
*B. Eng. in Automation (Honors School)* *08/2012 - 07/2016*
Academic advisor: Prof. Huijun Gao and Shen Yin

## 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

**Toyota Research Institute** **Los Altos, CA, USA**
*Research Intern* *06/2019 - Present*
Perception and Planning Teams, Behavior Prediction

**University of California, Berkeley** **Berkeley, CA, USA**
*Graduate Student Researcher* *08/2016 - Present*
Mechanical Systems Control (MSC) Laboratory & Berkeley DeepDrive (BDD)

**Harbin Institute of Technology** **Harbin, China**
*Research Assistant* *03/2014 - 06/2016*
Research Institute of Intelligent Control and System

## Teaching Experience

**University of California, Berkeley** **Berkeley, CA, USA**
*Graduate Student Instructor (Dynamic Systems and Control)* *01/2017 - 05/2017*

**Harbin Institute of Technology** **Harbin, China**
*Teaching Assistant (Automatic Control Theory)* *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", accepted by *IEEE Transactions on Intelligent Transportation Systems*, 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)*, 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.

## 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 in *2019 IEEE Intelligent Vehicles Symposium (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*

## 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