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, artificial intelligence, optimization approaches and their applications to probabilistic behavior prediction, decision making and motion planning for 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