Address: 801 Atlantic Dr NW, 273B, Atlanta, GA 30332 Email: thu.dongjing@gmail.com Homepage: jdong.info		
Summary	My current research interest covers various topics in computer vision and robotics, include simultaneous localization and mapping (SLAM), 3D reconstruction, and motion planning.	
Education	 Ph.D., Computer Science Au Georgia Institute of Technology, Atlanta, GA Advisor: Prof. Frank Dellaert & Prof. Byron Boots Thesis: Extending 3D Reconstruction to Temporal and Multi-mode Agriculture Major: Intelligent Systems, GPA: 3.91/4.0 	g 2013 – Aug 2018 (Expect) el Sensor Data for Precision
	 B.Eng., Engineering Mechanics and Aerospace Engineering Tsinghua University, Beijing, China - GPA: 91.8/100, Rank: 3/84 - Graduate with outstanding honor (top 2%) 	Aug 2008 – July 2012
Research Experience	 Graduate Research Assistant Aug 2013 – Present Georgia Institute of Technology, Atlanta, GA 4D agriculture: time-series 3D reconstruction for precision agriculture Built camera/IMU/GPS systems on ground vehicles, collected 4 years datasets in south GA. Proposed a time-series 3D (4D) reconstruction algorithm, and implemented in C++. Real-time motion planning as a probabilistic inference framework Proposed Gaussian process (GP) motion planning algorithms for real-time and online planning. Proposed Kinect volumetric 3D reconstruction for planning, and implemented in C++/CUDA. Real-time distributed and cooperative multi-robot mapping Proposed an online and real-time multi-robot SLAM algorithm, and implemented in C++. Tested the algorithm on CMU quadrotor swarm equipped with 2D LiDARs. 	
	Research Intern May 2017 – Aug 2017 Microsoft Research, Redmond, WA • Weakly-supervised local image feature learning for multimodal image matching • Proposed weakly-supervised CNN local image features, and implemented in Python/TensorFlow. • Achieved state-of-the-art performance versus existing supervised methods. • Time-series and multi-spectral 3D reconstructions for precision agriculture • Implemented time-series and multi-spectral 3D reconstruction algorithms in C++.	
	Robotics Engineering Intern iRobot Corporation, Bedford, MA - Worked on computer vision 3D mapping and localization for outdo	May 2015 – Aug 2015 or mobile robot.
	 Visiting Student Carnegie Mellon University, Pittsburgh, PA Built multi quadrotor system/swarm for distributed and cooperative 	Jun 2014 – Aug 2014 ze multi-robot SLAM.
	 Hardware Engineer Beijing Sonicmed Technologies, Beijing, China Hardware design of piezoelectric bleeding-less surgical instrument Designed the ultrasonic power amplifier and main PCB for piez Tested and improved the hardware designs to meet EMC stand 	Jan 2013 – July 2013 zoelectric surgical cutter. lards.

JOURNAL PUBLICATION (*EQUAL CONTRIBUTION)	 M. Mukadam[*], J. Dong[*], F. Dellaert, B. Boots. STEAP: Simultaneous Trajectory Estimation and Planning. Accepted in <i>Autonomous Robots</i>, 2018. 		
	 M. Mukadam[*], J. Dong[*], X. Yan, F. Dellaert, B. Boots. Continuous-Time Gaussian Process Motion Planning via Probabilistic Inference. Conditionally accepted in <i>International Journal</i> of Robotics Research (IJRR), ArXiv 1707.07383, 2017. 		
	 V. Indelman, E. Nelson, J. Dong, N. Michael, F. Dellaert. Incremental Distributed Inference from Arbitrary Poses and Unknown Data Association: Using Collaborating Robots to Establish a Common Reference. In <i>IEEE Control Systems Magazine</i>, 36(2), 41-74, 2016. 		
Conference Publication	 J. Dong, M. Mukadam, B. Boots, F. Dellaert. Sparse Gaussian Processes on Matrix Lie Groups: A Unified Framework for Optimizing Continuous-Time Trajectories. In <i>IEEE Inter-</i> <i>national Conference on Robotics and Automation (ICRA)</i>, 2018. 		
	 M. Mukadam, J. Dong, F. Dellaert, B. Boots. Simultaneous Trajectory Estimation and Planning via Probabilistic Inference. In <i>Robotics: Science and Systems (RSS)</i>, 2017. 		
	 J. Dong, J. Burnham, B. Boots, G. Rains, F. Dellaert. 4D Crop Monitoring: Spatio-Temporal Reconstruction for Agriculture. In <i>IEEE International Conference on Robotics and Automation</i> (ICRA), 2017. 		
	 J. Dong, M. Mukadam, F. Dellaert, B. Boots. Motion Planning as Probabilistic Inference using Gaussian Processes and Factor Graphs. In <i>Robotics: Science and Systems (RSS)</i>, 2016. 		
	 J. Dong, E. Nelson, V. Indelman, N. Michael, F. Dellaert. Distributed Real-time Cooperative Localization and Mapping using an Uncertainty-Aware Expectation Maximization Approach. In <i>IEEE International Conference on Robotics and Automation (ICRA)</i>, 2015. 		
	 J. Dong, C. Hu, J. Chen, H. Hao, Y. Ma. Edge Preserving Filtering by Combining Filters for Magnetic Resonance Image. In <i>IEEE International Congress on Image and Signal Processing</i> (CISP), 2011. 		
Other Publication	 J. Dong, B. Boots, F. Dellaert. Sparse Gaussian Processes for Continuous-Time Trajectory Estimation on Matrix Lie Groups. ArXiv 1705.06020, 2017. 		
	2. K. Ahlin <i>et al.</i> *. Robotics for Spatially and Temporally Unstructured Agricultural Environments. Book chapter in <i>Robotics and Mechatronics for Agriculture</i> , edit by D. Zhang and B. Wei, 2017.		
	 M. Mukadam, J. Dong, F. Dellaert, B. Boots. STEAP: Towards Online Estimation and Replanning. In RSS Workshop on POMDPs in Robotics, 2017. 		
	 L. Carlone, J. Dong, S. Fenu, G. Rains, F. Dellaert. Towards 4D Crop Analysis in Precision Agriculture: Estimating Plant Height and Crown Radius over Time via Expectation-Maximization. In <i>ICRA Workshop on Robotics in Agriculture</i>, 2015. 		
Skill	Programming : C++ (preferred), Python, C, CUDA, MATLAB Robotics Packages : ROS, OpenCV, TensorFlow, GTSAM		
Teaching Experience	Graduate Teaching Assistant, Georgia Institute of Technology- CS 3630 – Introduction to Robotics and Perception (undergraduate level)Spring 2017- CS 3600 – Introduction to Artificial Intelligence (undergraduate level)Spring 2015		
Professional Service	Reviewer for Journal : Autonomous Robots, IEEE Robotics and Automation Letters (RA-L) Reviewer for Conference : ICRA (2017-2018), IROS (2015-2018), AAMAS (2017) Book Translation (to Chinese) : Factor Graphs for Robot Perception by F. Dellaert and M. Kaess		