

# Jing Dong

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**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** Aug 2013 – Aug 2018 (Expect)

Georgia Institute of Technology, Atlanta, GA

- Advisor: Prof. Frank Dellaert & Prof. Byron Boots
- Thesis: *Extending 3D Reconstruction to Temporal and Multi-model Sensor Data for Precision Agriculture*
- Major: Intelligent Systems, GPA: 3.91/4.0

**B.Eng., Engineering Mechanics and Aerospace Engineering** Aug 2008 – July 2012

Tsinghua University, Beijing, China

- GPA: 91.8/100, Rank: 3/84
- Graduate with outstanding honor (top 2%)

**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** May 2015 – Aug 2015

iRobot Corporation, Bedford, MA

- Worked on computer vision 3D mapping and localization for outdoor mobile robot.

**Visiting Student** Jun 2014 – Aug 2014

Carnegie Mellon University, Pittsburgh, PA

- Built multi quadrotor system/swarm for distributed and cooperative multi-robot SLAM.

**Hardware Engineer** Jan 2013 – July 2013

Beijing Sonicmed Technologies, Beijing, China

- Hardware design of piezoelectric bleeding-less surgical instrument
  - Designed the ultrasonic power amplifier and main PCB for piezoelectric surgical cutter.
  - Tested and improved the hardware designs to meet EMC standards.

