

# Rohan Banerjee

Address: 349 Gates Hall, 107 Hoy Road, Cornell University, Ithaca, NY 14853

Phone: (703)-743-4178 E-Mail: rohanb@mit.edu

## EDUCATION

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### Massachusetts Institute of Technology (MIT)

Cambridge, MA

M.Eng. in Electrical Engineering and Computer Science, GPA: 4.5/5.0

June 2019

S.B. in Electrical Engineering and Computer Science, GPA: 4.9/5.0

June 2018

*Relevant Coursework:* Statistical Learning Theory and Applications, Robotics: Science and Systems, Bayesian Modeling and Inference, Machine Learning, Inference and Information, Design and Analysis of Algorithms, Computational Cognitive Science, Discrete-Time Signal Processing, Elements of Software Construction, Computation Structures

## EXPERIENCE

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### Massachusetts Institute of Technology

Cambridge, MA

*Research Engineer*

June 2019 – April 2020 (expected)

- Conducting research as a member of the DRL (Distributed Robotics Laboratory) group at CSAIL (Computer Science and Artificial Intelligence Laboratory)
- Refining autonomous driving simulation platform based on CARLA open-source driving simulator
- Validating research algorithms in simulation for vehicle navigation, dynamic obstacle avoidance, and end-to-end learning
- Supporting research in language understanding and human-robot interaction involving the Toyota Human Support Robot platform

### Massachusetts Institute of Technology

Cambridge, MA

*M.Eng. Researcher*

March 2018 – June 2019

- Conducted research as a member of the DRL group at CSAIL
- Developed autonomous driving simulation platform based on CARLA open-source driving simulator
- Investigated learning algorithms for LIDAR-based rural road detection

### Autoliv (now Veoneer)

Lowell, MA

*Intern, Advanced Sensing Group*

June – August 2017

- Developed mapping algorithm for Lidar data (Velodyne VLP-64) using point cloud registration to maintain coherent point cloud history and advance lane/object tracking algorithms
- Investigated mapping/registration techniques with lower-resolution (Velodyne VLP-32) Lidar data to improve point cloud data resolution
- Investigated ego-motion estimation techniques with VLP-64 data to support vehicle localization

### Massachusetts Institute of Technology

Cambridge, MA

*SuperUROP Advanced Undergraduate Research Program*

September 2016 – May 2017

- Conducted research as member of the SLS (Spoken Language Systems) group at CSAIL (Computer Science and Artificial Intelligence Laboratory)
- Contributed to the development of a conversational robotic system that can acknowledge speaking subjects
- Converted offline Voice Activity Detector module into real-time streaming module
- Researched techniques for integrating visual face detection and audio source localization

## PROJECTS

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### MIT Unmanned Aerial Vehicle Team

Cambridge, MA

*Student Participant*

September 2014 – September 2017

- Developed refined 2D simulator of competition arena and agent dynamics for the International Aerial Robotics Competition as simulation team lead
- Managed development of computer vision gridline and circle detection Python programs as computer vision team lead
- Co-developed Python simulator of competition arena and contributed to UAV path planning algorithms as member of artificial intelligence team

## SKILLS

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**Programming languages:** Python, C++, Java, C, MATLAB, C#, Mathematica

**Other software:** Microsoft SQL Server, Microsoft Excel (VBA)