

Samir Wadhwania

Email: samirw@mit.edu | Cell: 210 - 548 - 9821 | Cumulative GPA: 4.5/5.0

I want to excel in the fields of robotics, controls engineering, and autonomous systems

To whomever it may concern,

I hope you've had a wonderful day so far! I am a current undergraduate student at the Massachusetts Institute of Technology double majoring in Aerospace Engineering and Electrical Engineering/Computer Science. My goal is to take on opportunities to better myself as both a future engineer and an aspiring entrepreneur.

I hope to be able to do so with Apple between semesters and hopefully even beyond. I am now a little over halfway through my undergraduate career here at MIT, and I look forward to applying what I've learned from all my experience so far into my work. Some of the various activities I've had the pleasure of contributing to include:

- Being involved with MIT's Rocket Team: holding the **Avionics subteam lead** position for a semester, programming in **Arduino** and **C**, implementing PID controllers and learning about rocket design.
- Completing a summer internship at **Northrop Grumman** as a **Software QA Engineer**, working mainly in **C++**. A fellow intern and I even identified an opportunity for improvement within the systems engineering department, developing a new automation tool, and earning a Performance Recognition Award for our efforts and initiative.
- Finishing my second summer internship at **Boeing** as an **Electrical Design Intern** where I developed the **control architecture** for the thrust vector control system on the Exploration Upper Stage of the SLS.
- Traveled to El Salvador multiple times with **D-LAB**, installing and testing a **solar-powered water distribution system** in a remote village that was designed one semester as part of a research project.

I am now embarking on my junior year at MIT, and I'm very excited to take on many more learning opportunities. Even though the year has just begun, I believe I've narrowed down what my interests are as an engineer and my goals as a student:

- Continuing research in the field of **autonomous systems**, focusing on Artificial Intelligence, multiple agent **control systems**, reinforcement learning, and applications in **robotics**.
 - I am currently working in the **Model-Based Embedded and Robotic Systems** group within CSAIL developing geometric solvers in RMPL.
- Hopefully attending graduate school following graduation, majoring in Aerospace Engineering and concentrating in either Controls or Autonomy.

My goal is to bridge my interests between autonomous systems and robotic systems - I can't think of a better environment to do so than at Apple and the unique challenges that come with it. I am very enthusiastic about the possibility of working with such a renowned company on engineering challenges very different than what many think of when they think Apple, and I definitely look forward to hopefully discussing this position further.

Warm regards,

Samir Wadhwania

AeroAstro/EECS Class of 2018

Massachusetts Institute of Technology

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EDUCATION

Massachusetts Institute of Technology

Class of 2018

B.S. Aerospace Engineering, Electrical Engineering and Computer Science

EMPLOYMENT

The Boeing Company - SLS Electrical Design Engineering Intern

Summer 2016

- EAH Intern (~10% interns) - Part of the Engineering Accelerated Hiring Initiative, selected in early September and matched with SLS Program in Huntsville, AL
- Created flexible vehicle model incorporating FEA models and electromechanical actuators
- Designed actuator control system for thrust vector control of the Upper Exploration Stage
- Awarded a Pride@Boeing Award – going above and beyond the expectation for flexible vehicle project, and submitting a paper to IEEE AeroConf on work performed

Northrop Grumman - Software QA Engineering Intern

Summer 2015

- Performed software source code and test procedure reviews on Triton UAS
- Identified opportunities for improvement, created initiatives and provided solutions to save on schedule and budget within Systems Engineering department
- Awarded a Performance Recognition Award – created VB and DXL scripts to automate batch importation and linking of test cases into DOORS database

PROJECTS

RMPL Planner and PMT Solver @ CSAIL - SuperUROP

Fall 2016 - Present

- Working in Model-based Embedded and Robotic Systems (MERS) lab to design geometric reasoning solvers to be implemented in a model-based planner for decision making

Solar Powered Water Pump @ DLAB - UROP

Spring 2016

- Developed a solar powered water pump system for remote villages without access to running water or electricity - traveled to El Salvador in summer 2016 to test and implement

Integrated Robotics Group @ CSAIL - UROP

Fall 2015

- Tackled gesture/speech recognition to determine and communicate decision recommendations utilizing machine learning algorithms

EXTRACURRICULARS/LEADERSHIP

Questbridge Exec - Outreach Liaison

Fall 2016 - Present

- Organizes weekly tutoring meetups for local middle schoolers with Breakthrough Boston

DLAB Youth - Board Member

Fall 2016 - Present

- Manages DLAB's local outreach program to bring workshops to local schools

MIT Rocket Team - Avionics Subteam Captain

Fall 2015 - Spring 2016

- Led avionics subteam in developing sensor and telemetry system, designing custom circuit boards, and maintaining constant communication with rocket

SKILLS/CLASSES

Proficient: MATLAB, SIMULINK, Python, LISP, RMPL, Arduino, Office, Sublime, REST APIs

Familiar: C++, iOS Development, XCode, DXL, HTML, CSS, Javascript, Photoshop

Relevant Courses Taken/Planned (through Spring 2017):

6.002 — Circuits and Electronics

6.006 — Introduction to Algorithms

6.036 — Machine Learning

6.302 — Feedback System Design

6.866 — Machine Vision

16.001,2,3,4 — Unified Engineering

(Fluids, Thermo, Structures, Signals)

16.07 — Aerospace Dynamics

16.405 — Robotics: Science and Systems Lab

16.413 — Autonomy and Decision Making