



# Mohsen Alowayed

## Education

### Massachusetts Institute of Technology

*Candidate for Bachelor of Science in Mechanical Engineering GPA 4.9/5.0*

**Cambridge, MA**

Expected 2018

## Professional Experience

### King Abdullah University for Science and Technology

*Research Intern in the Advanced Semiconductor Laboratory*

**Thuwal, KSA**

May - Present

- Simulated light extraction of InGaN based nanowire lasers based on hyperuniform structure

### Bell Helicopter

*Engineering Intern in the Manufacture Research and Development Laboratory*

**Fort Worth, TX**

Jun - Aug 2016

- Programmed a vision system for automatic defect detection using liquid penetrant inspection
- Built carbon fiber reference standards for ultrasonic equipment calibration
- Designed and performed experiments on composite hole drilling using an industrial robot
- Designed a probe holder to aid in through transmission ultrasonic inspection

### MIT Space Propulsion Laboratory

*Undergraduate Researcher - Development of modular ion thrusters for cube satellites*

**Cambridge, MA**

Nov - Dec 2015

- Built an experimentation setup to hold the ion thrusters in a vacuum chamber
- Set up and wired the experimentation equipment for data collection

### MIT Vortical Flow Research Laboratory

*Undergraduate Researcher - Development of autonomous swarming buoys for monitoring dynamic ocean environments*

**Cambridge, MA**

Jun - Aug 2015

- Designed and implemented an electronic system for motor control and to enable capabilities such as GPS, Wi-Fi communication, and local SD card storage
- Programmed Arduino for testing movement proficiency and implemented a PID controller
- Developed a CAD model of the buoy for use in CFD simulations

## Additional Experience

### International Physics Olympiad

*Student Competitor*

**Astana, KZ**

May - Jul 2014

- Trained for 3 months per year for two years on advanced physics problem solving
- Won a bronze medal in 2014 and an honorable mention in 2013

**Copenhagen, DK**

May - Jul 2013

### High School VEX Robotics Team

*Team Leader*

**Riyadh, KSA**

Feb - Apr 2012

- Led the design strategy, and in doing so, reviewed past robot design elements
- Designed and built the chassis, gear system, and lifting arm
- Won 1st place nationally in Saudi Arabia and competed in the World Championship in L.A.

### Personal Projects

*View my portfolio at [www.alowayed.com](http://www.alowayed.com)*

- Designed, machined, and assembled a motorized longboard
- Engaged in multiple woodworking and metalworking projects

## Skills

<b>Language</b>	Fluent in English and Arabic	<b>Media</b>	Photoshop, Illustrator, Premiere, InDesign
<b>Programming</b>	Python, Java, C#, C++, C, HTML, CSS, Javascript, MATLAB	<b>Building</b>	Mill, Lathe, Composite layup, Woodworking, Blacksmithing, 3D Printing
<b>Design</b>	SolidWorks, CATIA, Mastercam, Blender	<b>Equipment</b>	Raman Spectroscopy, HRXRD, UV-Vis Spectroscopy