

(202) 486 9513

**Zane Carmichael Gavin**

gavin.z@husky.neu.edu

86 Saint Stephen Street, Boston, MA 02115

Portfolio: zaneavgavin.github.io

---

### Education

---

**Northeastern University**, Boston, MA

May 2018

*Candidate for Bachelor of Science in Mechanical Engineering*

**GPA:** 3.65

**Honors:** Dean's List, Excellence Scholarship

**Courses:** Thermodynamics, Mechanics of Materials, Engineering Mechanics and Design, Engineering Problem Solving and Computation, Understanding Design, Calc. III, Diff. Eq. and Linear Algebra

---

### Technical Skills

---

**Computer Applications:** Creo, SolidWorks, Inventor, AutoCAD, Visio, Excels

**Programming:** MATLAB, C++, Python, HTML, CSS

**Hands-On:** Experienced with lab equipment and procedures as well as hand and power tools

**Languages:** Spanish – Conversational

---

### Professional Experience

---

**iRobot Corporation**, Bedford, MA

January – June 2015

*Systems Engineering Co-op*

- Designed and constructed a modular test bed and CAD-ed (Creo) custom fixtures
- Modeled room designs with Visio, built using 80/20
- Conducted comprehensive testing on robots with in house video tracking software
- Provided regular team briefings on systems testing of a project in the late stages of development
- Upgraded tracking software, for new camera, operating system, and smaller file sizes, using OpenCV Computer Vision library (C++)
- Prepared professional documentation of testing and software procedures

**Agricultural Research Service, USDA**, Beltsville, MD

June - August 2014

*Pathways Intern*

- Tracked photoluminescence (Raman and NIR) of a variety of wheat specimen
- Processed and analyzed spectra with MATLAB and Eigenvector PLS\_Toolbox
- Designed (AutoCAD) laser system to measure density distribution of liquids

---

### Research Experience

---

**Carbon Nanostructures Research Group**, Northeastern University

August 2014 - Present

*Undergraduate Research Assistant*

- Conducting and designing tests for carbon nanotube fiber treatment
- CAD-ing and constructing fixtures for tests and peripherals, electrolysis cell and control box, using AutoCAD, Inventor and laser cutter
- Investigating the following prospective projects: nanostructure-quantum dot photosensor, capped carbon nanotubes, encasing (quantum dots encapsulated in a polymer shell)
- Developing and maintaining group webpage with HTML, CSS, and Bootstrap

---

### Background and Interests

---

- Playing guitar, traveling, hiking, biking and running
- Programming: Automating digital tasks to increase efficiency
- DIY: Building cool stuff and fixing broken things