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Zane Carmichael Gavin

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Portfolio: zanezgavin.github.io

Education

Northeastern University, Boston, MA

May 2018

Candidate for Bachelors/Masters of Science in Mechanical Engineering

GPA: 3.74

Honors: Dean's List, Excellence Scholarship

Courses: Environmental Issues with Products and Manufacturing (LCA), FEA, Systems and Controls, Heat Transfer, Fluids, Thermodynamics, Mechanics of Materials, Dynamics and Vibrations, Measurement Analysis

Technical Skills

Computer Applications: Creo, SolidWorks, Inventor, AutoCAD, Visio, Excel

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 rooms using 80/20
- Provided regular team briefings on systems testing of a project in the late stages of development
- Conducted comprehensive testing on robots with in house video tracking software
- 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

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; <https://www.coe.neu.edu/research/onsi/>

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

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