

## Education

### **University of Colorado at Boulder**

Graduating May 2016

Electrical and Computer Engineering Major with Computer Science Minor

**Semester GPA:** 3.200 — **Cumulative GPA:** 3.012

**Relevant Coursework:** Circuits 1, 2, and 3; Linear Systems; Digital Logic; Introduction to Embedded Systems; Computer Systems; Data Structures; Big Data Computing; Introduction to Artificial Intelligence; Human-Centered Design

## Engineering Experience

### **ClearCorp:**

May 2014 - October 2014.

New Product Development and Hardware Support

- Primary designer for a new hardware revision of *FlocCounter* water treatment sensor, using Eagle PCB.
- Debugged, refurbished and assembled SMD and through-hole boards to be sent to municipal water utility customers.

### **ITLL Electronics Center:**

Fall 2013 - Spring 2014.

Electronics Tutor

- Assisted all levels of students with designing, building, and debugging circuits and software.
- Created a tutorial using Altium Designer to show how to design, build, and rapidly-prototype PCBs.

### **Colorado Space Grant Consortium:**

Fall 2012 - Summer 2013.

DANDE and All-Star Satellite Ground Segment

- Created commands in Java for sending data management commands on DANDE, Launched 9/29/13.
- Ensured that Linux commanding servers were running and stable for the mission operators.
- Designed communication link using C and C++ for Raspberry Pi data layer with All-Star satellite.

## Projects

**Fireworks Launch Tester (Present)** Working with Tri-State Fireworks to build a system to confirm functionality of a new fireworks launch system. Makes use of custom PCBs and ARM programming.

**Big Data Neopixel (2014)** A board to accompany a Raspberry Pi, to connect programmable LED rings, to provide the hardware for a Computer Science group project.

**RC Two-Wheeled Robot with Nerf Pistol (2014)** Remote Controlled robot able to drive around and shoot a Nerf dart gun. Controlled using a modified NES controller. Made use of many custom PCBs.

**Additive Synthesizer with MIDI Control (2013)** Capable of outputting the combination of sine, square, or sawtooth waves. Entire project fit on an Arduino shield built in the ITLL rapid prototyping lab.

## Programming Languages and Skills

- C; C++; Java; Python; L<sup>A</sup>T<sub>E</sub>X; Verilog HDL; Assembly; MATLAB; Mathematica; Word; Excel; Altera Quartus II; Solidworks.
- Comfortable working with and maintaining Linux environments, Git and Version Control.
- Experience working with machining tools and making designs to fit tolerances.

## Leadership and Activities

**ZBT Vice President of Communications (Present)** Ensure that brothers of the 100 person organization are aware of events by building a Raspberry Pi slideshow/community board. Built intranet using a Raspberry Pi server and Dynamic DNS. Worked to debug and upgrade a business-sized Wi-Fi network.

**CU Biodiesel Club (Present)** Active member responsible for updating cubiodiesel.org, and working with the group to organize a large upgrade of the biodiesel processor to produce ASTM D6751 standard biodiesel.

**Eagle Scout (2010)** Planned and led a group of 20-30 people on a project to restore damaged shoreline at Eaglewatch Lake. Had to fundraise and work with business owners to obtain the materials for the project.