

## Education

### University of Colorado, Boulder

BS Electrical & Computer Engineering  
Expected graduation: Spring 2022

### Tunxis Community College

A.S. Engineering Science  
Grad w/honors, Spring 2019, GPA: 3.54

## Technical Skills

**Electrical:** Soldering (SMD/TH), PCB design, mbed, Arduino/ATMega, TI MSP432 & TIVA C platforms, LTSpice/PSpice, Autodesk Eagle, FPGA/Verilog, DMM, Oscilloscope

**Code:** C/C++, Arduino, Java, LabVIEW, Matlab, HTML/CSS/JS, Node.js, UNIX/Linux CLI, Git/GitHub

**Misc:** TIG Welding, Model Rocketry (NAR L1), HAM Radio (KC1KKR), Autodesk Inventor (CAD), 3D printing

## Awards & Honors

### Brooke Owens Fellowship:

Class of 2020 BOF Semifinalist

### NASA Community College

### Aerospace Scholars:

Online experience grade: 100%, CAPCOM award at LaRC on-site session, 4/2019. Selected to work as a Student Assistant, 6/2019 session.

### NASA CT Space Grant Consortium:

Summer 2019 Research grant, Summer 2018 Education Intern, Fall 2017 Community College Scholarship

### WiCHacks 2017:

"Light Code" won Best UI, Best Hardware Hack, Displayed in MLH Office Gallery

### OSHW 2017:

Open Source Hardware Summit 2017  
Ada Fellow

## Work Experience

### Computer Lab Assistant, Silas Deane Middle School

Wethersfield CT | Aug '14-Jul '16

- Supervised computer labs, coordinate use of school's electronic devices.
- Led professional development workshop on Google products.

### Team Member, Jo-Ann Fabric & Craft Stores

Newington CT | Apr '17 - Mar '19

## Extracurricular & Volunteer Experience

### FIRST Robotics Competition Team #178

Sept 2013 - July 2019

- Served as a mentor for high school students. Fostered students' technical and management skills during robotics challenge.
- Focused on electrical/programming, web design, project management, rapid prototyping, esp. inspiring female members.

### Let's Build Rockets Inc.

Jan 2015 - present

- Established non-profit to promote STEM education through amateur rocketry and robotics development/outreach.
- Develops open-source rocketry data acquisition, visualization tools.
- Directs projects including rocketry payload electronics development, PCB kit design, and website database design.

### CU Sounding Rocket Lab

Aug 2019 - present

- Develops avionics hardware and software for high power rockets
- Electronics and code for cold gas reaction control system team

### CU Robotic Mining Team

Aug 2019 - present

- Develop electrical systems for NASA lunar mining robotics competition team. PCB design, parts selection, aid software and mechanical teams with design decisions at a system level.

## Projects

### Avionics Payload - Embedded Systems Final Project

Fall 2019

- Led team of 3 to design datalogging and RF recovery system for model rockets. Managed concurrent development, milestones
- Conducted trade studies based on LTSpice simulations and analysis, designed modular PCBs including RF transmitter. Utilized hardware UART, I2C on MSP432 to communicate with peripherals.

### RocketSat 13 - COSGC

Sept 2019 - present

- Develop avionics system and related test procedures for sounding rocket experiment to test passive solar panel deployment system.

### Astronaut AR Visualization Tool - CCSU/CTSGC

June-Aug 2019

- Develop proof-of-concept Augmented Reality system to aid in simple visualization and issue diagnosis for satellite repair.
- In charge of model satellite used for demo: CAD for 3D printing, selecting and integrating sensors and bluetooth

### Trinity Fire Fighting Robot Competition

Dec 2016 - May 2018

- Design and build autonomous robot to navigate a maze and locate and extinguish a candle in the shortest period of time
- Utilize Robot Operating System (ROS), SLAM algorithm using LIDAR data, OpenCV and IR sensor to locate flame
- Awarded Outstanding Robots in Connecticut by IEEE CT '17, '18

### Student Sounding Rocket - Discovery Museum, CT

June-Aug 2018

- Design and build payload for high powered model rocket in order to relay student-built telemetry over ISM radio during flight.
- Create custom PCBs using Autodesk EAGLE and combined 3D printing and traditional machining to fabricate mechanical parts.

### Satellite Tracker "3000" - UHacks 2017

November 17-19, 2017

- Used SGP4 algorithm and Space-track TLE data on mbed platform to calculate altitude & azimuth of a user-selected satellite, then point a 3D printed "arm" at it, adjusting as the satellite moves.

### Horizon Tracker - Let's Build Rockets Inc.

Jun 2017 - Sept 2017

- Supervise intern work on horizon tracker payload for model rocket.
- Use Open CV and Raspberry Pis to determine orientation of rocket based on the angle of the horizon from camera images