Katie Bradford

Electrical Design Engineer

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Experience

Shaper Tools

Electrical Engineering Intern - Summer 2018, 2019

Analyzed quotes from several electronics manufacturing services to determine best fit, discussing and negotiating with vendors

Defined system architecture and designed development platform for confidential products

Designed and manufactured electromechanical test fixtures for factory testing, decreasing yield loss and complexity

CUAir: Cornell UAV Team

Electrical Subteam - Fall 2016 - Spring 2020

Worked on interdisciplinary team of engineers to design, build, and test unmanned aerial system to compete in search and rescue competition

Designed custom PCBs for catapult control and power regulation

Integrated all bay electronics with carrier board system unifying power, communication, and breakout between modules

MITRE Institude, FFRDC

Software Engineering Intern - Summer 2016, 2017

Reverse engineered CAN bus communication to mitigate risks involving malicious vehicle hacking

Created tool to extract and index geospatial metadata from aerial imagery to create coverage maps

Projects

Carrier Board

CUAir Electrical Subteam

Built motherboard PCB to host NVidia Jetson TX2, Pixhawk Autopilot, power regulation, battery charging, and robotic controls systems
Integrated with 4 electrical designers and other mechanical/software teams for full-system success

T.O.A.S.T

Final Project for Microcontrollers Class

Built robotic system to draw images and text on toast with heat gun on gantry
Wrote C code to control motors, communicate with RaspPi, on Pic32
Published article in Circuit Cellar magazine

Education

Cornell University - Ithaca NY

B.S Electrical and Computer Engineering
Spring 2020 - GPA 3.78

M.Eng Electrical and Computer Engineering
Fall 2020

Relevant Coursework

Analog Integrated Circuit Design
Microcontrollers
Microelectronics
Digital Logic and Computer Organization
Human Robotic Interaction

Extracurriculars

Fall 2016 - Present

Cornell Rapid Prototyping Lab

Lab Technician

Assisted research groups and project teams with design and manufacturing

Operated and debugged prototyping machinery; 3D printers, laser cutter, CNC router

Kessler Fellow

Kessler Fellows Program

Engineering entrepreneurship focused program for Cornell Engineering juinors to explore the world of startups

Cornell Maker Club

Events Coordinator

Organized the annual make-athon and skills workshops for Cornell community

Skills

CAD	Altium, Solidworks, Fusion 360
Software	Python, Matlab, Arduino, LaTex
Other	Soldering, 3D printing, laser cutting, technical writing