

EDUCATION

Carnegie Mellon University | Pittsburgh, PA

B. S. in Mechanical Engineering | May 2020

Minor in Robotics | May 2020

RELEVANT JOB EXPERIENCE

BUSEK - Space Propulsion & Systems

Engineering Intern | Natick, MA | Summers 2018-2019

Contact: Pete Hruby (COO)

- Populated and tested complex custom PCBs
- Developed in-house custom PCB fabrication
- Designed sealed fluorinert containing enclosures for prototype electrical systems
- FEA to design parts from dupont materials with unique properties
- Miniaturized power systems prototypes to meet industry size requirements

RailPod

Mech. Engineering Intern | Boston, MA | Summer 2017

Contact: Brendan English (CEO)

- Developed expertise in PDM management, part sourcing, hydraulic brake systems, and mechanical drawings
- Designed and implemented fail-safe system for lift jack
- Conducted repairs on V2 which is currently in service
- Managed engineering change orders to update parts and drawings on complex main robot assemblies in CAD

Box Fort Inc.

Engineering Intern | Norwood, MA | Summers 2015-2016

Contact: Matthew DuPlessie (CEO)

- Assembled and wired show control panels
- Designed and built show elements
- Enhanced skills in welding and sheet metal fabrication
- Certified operator of woodshop floor machines

RECENT LEADERSHIP

President, CMU Originals A Cappella | 2018 & 2019

- Coordinated all tasks and directed exec board meetings
- Upheld the group's brand and mission and realized the group's goals through constant improvement
- Led the group to ICCA Finals on Broadway in NYC
- Managed all external communications, outreach, and performance planning

CLASSES - Highlights

Robotics Capstone | Spring 2020

Robot Kinematics & Dynamics | Fall 2019

Robotic Systems Engineering | Fall 2019

Robotics for Creative Practices | Fall 2019

Feedback Control Systems | Fall 2019

Design II | Fall 2018

Heat Transfer | Fall 2018

Rapid Prototyping | Spring 2018

PROJECTS

Savor Robotics | Fall 2019 - Spring 2020

Robotics Capstone

- Developed a robot that assembles sandwiches
- Responsible for overall CAD management and entire ingredient dispensing / storage system
- Drew design sketches for all subsystems and use case diagrams
- Aided with Verification and Validation Test Plan

Spotlight | Fall 2019

Robotics for Creative Practices

- Designed and fabricated a Pixar lamp with pitch, 360 yaw, and brightness control
- Sensed and tracked most animated person in its surroundings using motion capture cameras
- Sourced and installed motors, motor drivers, and microcontroller

BoomLight | Spring 2019

Personal Project

- Designed & fabricated a portable bluetooth speaker with excellent sound quality and battery life
- Wired and programmed LED audio-visualization using custom CNC-cut PCB shield on a microcontroller
- Spoke to experts at CMU for help implementing beat detection into the audio-visualization

Other Projects: Electric Bassoon, Mechanical Gripper, Pipe Crawling Robot, Automatic Window Shade, Motorcycle-GoKart Engine Swap, Suitcase Speakers

SKILLS

Software

SolidWorks, Fusion 360, AutoCad, Eagle, Adobe Premiere, Office, Minitab Statistical

Programming

MATLAB, Python, C / C++, LaTeX, HTML

Hands-on

CNC Machines, 3D Printers, Laser Cutters, Soldering, All Common Shop Tools

ACTIVITIES & HONORS

CMU RadPiper Nuclear Robotics - Fall 2018

CMU Cube Rover Project - Fall 2017

CMU Originals, Baritone - Fall 2016 - Spring 2020

President's Award, NSHS - For Outstanding Citizenship - 2016

South Stage Master Carpenter - Fall 2013 - Spring 2016

Interests

Mountain Biking, Tennis, Soccer, Snowboarding, Singing, Bassoon, Electric Bass