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## SKILLS

- *Programming Languages:* C, C++, MATLAB, Python, VBA, HTML, CSS, JavaScript, Bash
- *Platforms and Software:* SolidWorks, LabVIEW, PLC, Arduino and Teensy microcontrollers, Linux OS, ROS
- *Design and Fabrication:* CNC mill/lathe, 3D printer, laser cutter, sheet metal, injection molding
- *Coursework:* Linear Controls, Nonlinear Controls and Optimization, Robotic Modeling and Control, UAVs  
Computer Vision, Machine Learning, Computer Architecture, Algorithms, Mechatronics

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## EDUCATION

### Master of Science in Robotics

University of Pennsylvania, *School of Engineering and Applied Science*

Expected Spring 2021

GPA: 3.57/4.00

#### PROJECTS:

- Programmed a Crazyflie quadrotor to navigate a maze-like environment
- Designed and programmed hardware for an autonomous *Battlebots* style robot
- Applied modern optimization techniques to synthesize a controller for dynamic robotic systems
- Researching algorithmic improvements to probabilistic path planning

### Bachelor of Science in Mechanical Engineering, Magna Cum Laude

Tufts University, *School of Engineering*

Sept. 2011 - May 2015

GPA: 3.50/4.00

MINOR: Computer Science

HIGH THESIS HONORS: "Dynamic Imaging of Carbon Nanotube-Liquid Crystal Suspensions"

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## EXPERIENCE

### Mechanical Engineer

RedShift BioAnalytics, Burlington, MA

Dec. 2015 – Jan. 2019

First mechanical engineer for startup developing an instrument to aid in pharmaceutical discovery

- Designed a robotic sample handling subsystem to easily deliver fluids to the instrument for testing
- Created and managed CAD models, drawings and manufacturing processes for prototype units
- Programmed modules using MATLAB, LabVIEW and C to automate data processing

### Mechanical and Controls Engineer

Dynamo Micropower, Somerville, MA

June 2015 - Nov. 2015

Brought a novel gas turbine based distributed power system to market as part of a five person company

- Designed and integrated sensor and actuator hardware used by the engine's feedback controller
- Developed and maintained code base for engine controls, using the Danfoss PLC platform
- Engineered a 6kW load bank platform to serve as a testing platform for turbines

### Project Leader - Purpose-Built Electric Formula Race Car

Tufts Racing, Somerville, MA

May 2014 – May 2015

Led team of 30 students to a first-place finish at the 2015 SAE Formula Hybrid competition

- Engineered drivetrain powered by a high torque motor, mounted with custom damping elements
- Designed and built high voltage battery boxes in compliance with strict competition safety standards
- Won Project Management portion of the competition by a total restructuring of the organization

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## INTERESTS

Playing piano and bass guitar, Go, woodworking, hiking, climbing, snowboarding, tennis, basketball, travel