

Robert Barlow

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Robotic Engineer

BarlowR.com

Education

Class of 2021

Olin College of Engineering

BS in Engineering:Robotics

3.6 GPA

Projects

+One

Entrepreneurial Venture | Jan 2019- Current

- Received the Babson Weissman fellowship to develop new tools for avalanche victim discovery
- Worked on a team of two to conduct market research, build custom electronic hardware, write embedded software and do extensive user-testing in an attempt to advance the state of the art in backcountry safety gear.

Atari Deep RL

Computational Robotics Course | Dec 2020

- Implemented both classical and deep reinforcement learning agents in Python/PyTorch in various OpenAI Gym environments
 - Used both DQN and policy gradient approaches and wrote functionality to parallelize multi-environment simulation
- xieruishen.github.io/Atari_with_RL/blog

GeoDecibel

Personal Project | March 2019

- Developed custom wooden speakers based on acoustically optimized rhombic dodecahedron configuration.
 - Designed and assembled crossovers with self-wound inductors.
 - Leveraged 3-axis CNC router & woodshop for fabrication and COMSOL for simulation
- portfolio.barlowr.com/geodecimal

FLOW

Mechanical Prototyping | April 2017

- Designed and constructed single motor driven kinetic sculpture inspired by oceanic wave motion.
 - Lead system design and CAD on team of 5 students
- portfolio.barlowr.com/flow

Experience

Robotic Engineering Intern

MVP Robotics, Bradford, VT

January 2021 - Current

Mechanical Engineering Intern

Zipline International, Half Moon Bay, CA

July 2019 to July 2020

- Worked on a multi-disciplinary team to take Zipline's perception system from prototype to volume production.
- Designed hardware from one-off 3D prints through injection molding.
- Worked closely with EE team to design a compute module PCBA and enclosure solution within highly constrained size, weight, weather and thermal requirements.
- Purchased & personally refurbished a South Bend 14" lathe to expand machine shop capabilities.

Lead Instructor

Olin Shopbot & Woodworking Space

September 2017 to June 2019

- In charge of Olin's Shopbot, a large scale 3 axis CNC router, and associated spaces.
- Duties included preventative and on-demand maintenance work, continuous improvement projects, and instruction of fellow students and faculty in CAM & machine operation.
- Also worked with faculty to create a new advanced woodshop & worked in the space as an instructor.

Electro-Mechanical Eng. Intern

UC San Diego Engineers for Exploration

June 2018 to Sept 2018

- Worked closely with faculty at Scripps Institute of Oceanography to create a sensor system to improve diver workflow in underwater 3D mapping of coral reefs.
- Worked on a team of two to design, manufacture, and test this system, which leverages an IMU, pressure sensor, magnetometer and microprocessor to aggregate and display crucial environmental information. to divers.

Robotic Research Intern

Olin Intelligent Vehicle Lab, Needham, MA

May 2017 to September 2017

- Designed, built and flew fixed wing sUAS (small unmanned aerial systems) for Scientific Systems Company, Inc. contract.
- Developed a novel system for dropping fire suppressant while in-flight.
- sUAS leveraged first-person view systems, long range control and was designed for very high payload capabilities.

Python 3 | ROS | C++
NX | Solidworks | Fusion 360
Photoshop | Illustrator | Indesign
CAM | CNC | Mill | Lathe
Woodworking | Composites
Electrical Prototyping | KiCAD

Toolbox