ISAAC VANDOR

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EDUCATION

Olin College of Engineering

B.S. Robotics Engineering 2019

Relevant coursework includes Mechanical Prototyping, Fundamentals of Robotics, Principles of Engineering, Quantitative Engineering Analysis

4 year, half-tuition merit scholarship recipient

EXPERIENCE

Olin Robotics Lab

2015 to Current

Lab Administrator

- Coordinate with outside sponsors including NOAA, Woods Hole Oceanographic Institute, Scientific Systems, Office of Naval Research, and others
- Manage 30+ students across 5 teams focusing on designing, developing, and testing autonomy for underwater vehicles, surface vessels, fixed wing and multirotor aerial vehicles, and eusocial robots

Olin College of Engineering

2016 to Current

Rapid Prototyping Assistant

- Responsible for operating and maintaining rapid prototyping workshop for all engineering majors
- Teach rapid prototyping design and fabrication techniques
- Trained operator/instructor on Stratasys Dimension 1200es 3D printer, Shopbot CNC Router, and Markforged Mark Two 3D Printer

Olin Robotics Lab

2015 to Current

Robotics Researcher

Designed autonomous systems for specific use cases including

- A fast, lightweight drone for use in GPS-denied environments
- A waterproof drone for use in photographing and determining dimensions of whales
- Autonomous landing capabilities between a drone and an unmanned surface vessel

DP Technology

2013 to 2015

Software Quality Assurance Associate

- Manual quality assurance and debugging for Esprit, an integrated CAD/CAM software package
- Coordinated with engineers across projects to implement customer feedback
- Developed a set of templates for CNC machines enabling customers to use their personal machines in Esprit

PROJECTS

Olin Aquatic Robotic Systems

2015 to Current

- Team Coordinator/Electrical Subteam PM
- Developed a fully autonomous 4.3m-long sailboat capable of performing complex computational tasks (i.e. computer vision, autonomous navigation, station-keeping) on the water with no human input
- Responsible for electrical system design and implementation using Solidworks Electrical suite, Autodesk Circuits, Upverter, and Onshape

ReFilament PLA Recycling System

2016 to 2017

- Created a filament recycling and extrusion system capable of turning PLA pellets into usable PLA filament capable of extrusion in a Makerbot Replicator and other common PLA printers
- Developed using traditional metal fabrication techniques, laser cutting, and 3D printing
- Project details at poe.olin.edu/2016/ReFilament/

Olin Submersible Vehicles Lab

2016 to Current

- Developed a submersibles lab at Olin with the intention of building a fleet of autonomous underwater vehicles capable of performing sensing missions utilizing the same low-cost, open-source controls system developed for aerial, ground, and surface vessels
- Focus on vehicle interoperability using ROS, on-board computing power, and a common communications platform

HI Tag App Platform

2015 to 2016

- Designed and developed a technology platform for tagging and tracking economically important species of fish
- Created an Android app, a new RFID-based tag, and a web interface to provide data to ocean researchers and biologists
- Presented research results at IEEE Oceans '16 and served as session chair

SKILLS

DESIGN: Solidworks, Onshape, Adobe Creative Suite, Circuit Design, Esprit, Grabcad, Autodesk Fusion 360, LaTeX

FABRICATION: 3D Printing, CNC/Manual Mill, Lasercutter, Lathe, Composite 3D Printing, CNC Router, Soldering

SOFTWARE: Python, HTML + CSS, Arduino, Matlab, ROS, C/C++, Linux, Upverter