ISAAC VANDOR

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EDUCATION

OLIN COLLEGE OF ENGINEERING

B.S. Engineering: Robotics 2019
Relevant Coursework including: Mechanical Prototyping, Fundamentals of Robotics, Principles of Engineering, Quantitative Engineering Analysis, Modeling and Simulation of the Physical World
Recipient of a 4 year, half tuition merit scholarship

EXPERIENCE

Olin Robotics Lab
Lab Administrator

- Coordinated with outside sponsors including: NOAA, Woods Hole Oceanographic Institute, Scientific Systems, Planck Aero, 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
Rapid Prototyping Assistant

- Responsible for operating and maintaining rapid prototyping workshop in the Olin College Robotics Lab
- Teach rapid prototyping design and fabrication techniques to other students.
- Trained operator/instructor on Stratasys Dimension 1200es 3D printer, Shopbot CNC Router, and Markforged Mark Two 3D Printer.

Olin Robotics Lab
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
Software Quality Assurance Associate

- Did 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 users to use their customized machines in Esprit

PROJECTS

Olin Aquatic Robotic Systems

- 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

HI Tag App Platform

- 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 interested in studying these species.
- Presented research results at IEEE Oceans '16 (Also served as a session chair).

Kinetic Sculptures

- Designed and fabricated a kinetic sculpture powered by a small DC motor and a second, entirely wind-powered sculpture using milling, turning, routing, 3D printing, water-jetting, thermoforming, and other fabrication techniques
- Developed a full CAD package and design report intended to highlight each of the various mechanical design and prototyping techniques used in the process.

Olin Submersible Vehicles Lab

- 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, onboard computing power, and a common communications platform

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