

# ISAAC VANDOR

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## EDUCATION

### OLIN COLLEGE OF ENGINEERING

B.S. Engineering: Robotics 2019

## EXPERIENCE

### Olin Robotics Lab · 2015 to Present

#### Lab Administrator

Coordinated with multiple private engineering firms and government contractors on robotics research for different types of autonomous systems. Managed 5 student teams (20+ people) in designing, developing, and testing various levels of autonomy in robotic systems for specific use cases in collaboration with outside sponsors.

### Olin College of Engineering · 2015 to Present

#### Rapid Prototyping Assistant

Responsible for operating and maintaining rapid prototyping workshop in the Olin College Robotics Lab and teaching 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 · 2015 to Present

#### Robotics Researcher

Designed autonomous systems for different research applications: an android application for tracking large pelagic fish, a fast, lightweight drone for use in GPS-denied environments, and a unified autonomy control system for submersible, surface, ground and air vehicles.

### DP Technology · 2013 to 2015

#### Software Quality Assurance Intern

Managed quality assurance team 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 customize software to their personal machine setup.

### University of Haifa Maritime Civilizations Department · 2014

#### Field Expedition Intern

Excavated a bronze age harbor and placed findings in context of historical importance based on previous understanding of the geographic region and harbor. Responsible for maritime surveying (conducted via a series of free-dives) and assisting land-based excavation.

## PROJECTS

### Olin Aquatic Robotic Systems - Team Coordinator/Electrical Subteam PM · Aug 2015 to Present

Developed a fully autonomous 4.3meter 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 and Autodesk Circuits.

### HI Tag Platform - PM/iOS Development · Jan 2016 to Present

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 - Mechanical Design/Fabrication · Jan 2016 to May 2016

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.

### Facial Recognition Program - Software Development · Apr 2016 to May 2016

Developed a program for facial recognition using various matrix analysis techniques, including the eigenfaces method and principle component analysis. Wrote a paper to analyze the effectiveness of these techniques in recognizing faces across datasets and compared the success of the program with other facial recognition methods.

### Pan/Tilt Infrared 3D Scanner - Rapid Prototyping/Systems Integration · Sep 2016 to Present

Developed a pan/tilt scanner using an infrared sensor to scan a 3-dimensional object. Responsible for mechanical design and mech/electrical/software integration. Manufactured the mechanical components using 3D printed Onyx material with heated inserts embedded to mount servos and the IR sensor.

## SKILLS

### DESIGN

Solidworks  
Onshape  
Adobe Creative Suite  
Circuit Design  
Esprit  
Grabcad  
Autodesk Fusion 360  
Figma

### PROTOTYPING/MANUFACTURING

3D Printing  
CNC/Manual Mill  
Lasercutter  
Lathe  
Composite 3D Printing  
CNC Router  
Soldering  
Sheet Metal Fabrication

### SOFTWARE

Python  
HTML + CSS  
Arduino  
Matlab  
ROS  
C  
Ardupilot  
PX4