

# ISAAC VANDOR

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## EDUCATION

### OLIN COLLEGE OF ENGINEERING

B.S. Engineering: Robotics 2019

## EXPERIENCE

### Olin Robotics Lab · 2015 to Current

#### Lab Administrator/Senior Researcher

Coordinated with multiple private engineering firms and government contractors on robotics research in developing unified controls systems for submersible and surface aquatic vessels, ground vehicles, and fixed wing and multirotor unmanned air vehicles. Managed multiple student teams in designing, developing, and testing various levels of autonomy in robotic systems.

### Olin College of Engineering · 2015 to Current

#### 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.

### 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 develop better tools and user experiences.

### University of Haifa Maritime Civilizations Department · 2014

#### Field Expedition Intern

Excavated a bronze age harbor and placed findings in the context and historical importance of a maritime-based economy on the development of culture.

## PROJECTS

### Olin Aquatic Robotic Systems - Engineering Manager/Electrical Coordinator

Developed a fully autonomous 4.3meter long sailboat capable of performing complex computational tasks on the water with no human input. Responsible for electrical system design and implementation.

### HI Tag Platform - PM/iOS Development

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

Designed and fabricated a kinetic sculpture powered by a small DC motor and a second, entirely wind-powered sculpture using numerous 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

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 IR Scanner - Rapid Prototyping/System Integration

Developed a pan/tilt scanner using an infrared sensor to scan a 3-dimensional object. Responsible for mechanical design of the system and printing the system using 3D printed Onyx material with heated inserts embedded to mount servos and sensor components.

## SKILLS

### DESIGN

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

### PROTOTYPING/MANUFACTURING

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

### PROGRAMMING

Python  
HTML + CSS  
Arduino  
Matlab  
C  
ROS  
MAVLink