ISAAC VANDOR

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EDUCATION

Olin College of Engineering
B.S. Robotics Engineering 2019
Relevant coursework includes: Computational Robotics, Robotic Systems Integration, Principles of Engineering, Quantitative Engineering Analysis

SEA Semester · Sept. 2017 to Jan. 2018
Crewmember & researcher aboard SSV Robert C. Seamans for oceanographic research voyage off the coast of New Zealand
Relevant coursework includes: Oceans & Global Change, Data Communication & Visualization, Towards a Sustainable Ocean
Duties include: Neuston Net deployment for Phytoplankton sampling, Niskin bottle sample collection, CTD deployment

PROJECTS

Pathfinder Structured Light Sensing & Navigation System
Jan. 2018 to Current
- Designed & developed a structured light sensing platform for shallow water robotic vehicles
- Responsible for mechanical design, electrical sub-system, and full system integration
- Will present research results at IEEE Oceans '18 conference

Whalematch Whale Identification System
Sept. 2018 to Current
- Designed & developed a whale identification system for recognizing individual whales based solely on drone footage of blowholes
- Implemented convolutional neural network for blowhole recognition and prediction algorithm for classifying input images against dataset
- Winning project at Hack For The Sea 2018

Bravobot Autonomous Vehicle
Aug. 2016 to Dec. 2016
- Developed an autonomous race car capable of navigating unknown terrain indoors and outdoors
- Responsible for reactive control systems including camera and lidar-based obstacle detection, tracking and avoidance
- Used ROS to build an autonomy system with a state machine, planning module, reactive module, & control module

Olin Aquatic Robotic Systems
Sept. 2015 to June 2018
- Team Coordinator/Electrical Subteam PM
- Developed the electrical systems for a fully autonomous 4.3m-long sailboat capable of waypoint navigation on the water
- Responsible for COTS electrical system design, implementation, and mechanical, electrical, and software systems integration
- Technologies used include Solidworks Electrical Suite, Upverter, Onshape, and QGroundControl

EMPLOYMENT

Carnegie Robotics, LLC
Systems Engineering Intern · June 2018 to Sept. 2018
- Led new feature testing for a robotic mine detection and neutralization platform
- Developed remote logging capabilities and platform for viewing large amounts of robot log data
- Implemented improved user interface design and user experience for army operators

Naval Undersea Warfare Center Division Newport
Tactical Unmanned Vehicle Systems Intern · May 2017 to Aug. 2017
- Created a payload autonomy system utilizing ROS (Robot Operating System) and C++ to parse messages from a Hydroid REMUS unmanned underwater vehicle into the ROS-based message format, enabling compatibility with a wide range of autonomy technologies
- Security Clearance details upon request

Olin College Robotics Lab
Lab Administrator/Researcher · 2015 to Current
- Coordinated robotics projects with outside sponsors including NOAA, Woods Hole Oceanographic Institute, Scientific Systems, Office of Naval Research, and others
- Managed 30+ students across 5 teams focusing on designing, developing, and testing autonomy for underwater vehicles, surface vessels, fixed wing and multirotor aerial vehicles
- Developed multiple autonomous systems with marine science and remote sensing/sampling applications

SKILLS

DESIGN: Solidworks, Onshape, Adobe Creative Suite, Circuit Design, Esprit, Grabcad, Autodesk Fusion 360, LaTeX, Visio, Upverter
FABRICATION: 3D Printing, CNC/Manual Mill, Lasercutter, Lathe, Composite 3D Printing, CNC Router, Soldering
SOFTWARE: ROS, Python, Arduino, C++, HTML/CSS, Matlab, Linux, RECON, Keras/Tensorflow, Jira, OpenCV