Florian Schwarzinger

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Education

Olin College of Engineering Needham, MA
- Bachelor of Science in Engineering with a concentration in Robotics
- Recipient of 4-year 50% Tuition Merit Scholarship
- Graduation: May 2023, GPA: 3.38

Skills

Programming: Linux, Python, Java, GitHub, GitLab, OpenCV, ROS, Arduino, MATLAB, JavaScript, C++
Machining: Lathe, CNC Mill, Welding, Plasma Cutting, Sheet Metal Forming, CAM, Laser Cutting, FDM Printing, Resin Printing
Software: OnShape, SOLIDWORKS, Microsoft Office Suite, Adobe Creative Suite

Experience

ThayerMahan Groton, CT May - December 2022
Research and Development Intern
- Utilized Python and OpenCV to control thermal FLIR camera and continuously capture and stitch together 360-degree thermal image.
- Worked on development, calibration, field testing and maintenance of autonomous jetski.
- Developed Arduino code for physical whale blow simulator.

University of Washington - Applied Physics Laboratory Seattle, WA June - August 2021
Ocean Engineering Intern
- Modified commercially avalible ROVs, from scratch, to enable autonomous following of one ROV by another utilizing Python, ROS, and OpenCV.
- Integrated external sensors into the preexisting ROV architecture.
- Generated and executed test plans to incrimentally validate functionality of project.

Olin IT Helpdesk Needham, MA October 2018 - Present
Technical Support
- Work with users to troubleshoot and fix broken devices and software issues.
- Manage and maintain a campus-wide network of computers and connected devices.
- Setup and run AV systems for crucial presentations and events.

Projects

All projects can be found in more detail on my portfolio (fschwarzinger.com).

Robotic Tug-Boat February 2020
- Wrote functions in Arduino Code to make a robotic tug-boat follow a specified target using object detection.
- Created arbiter to take movement commands from multiple functions, process the information, and arbitrate which command should be followed.

Rubik's Cube Solving Robot February 2020
- Wrote a Python program in under 24 hours to solve a Rubik's cube and output to a microcontroller.
- Optimized the program using graph data structures and multiple search algorithms later.
- Won MakeHarvard2020.

Shadow Boxing Robot October - December 2019
- Worked on the mechanical portion of a robot designed to mirror a person's movement.
- Designed and assembled a 2 degree of freedom (DOF) hip joint, a 2 DOF shoulder joint, and a 1 DOF elbow joint using OnShape and SolidWorks.
- Tested and iterated on several designs to find something that met the project reqirements.