

Florian Schwarzinger

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Education

Olin College of Engineering - Needham MA

- Bachelors of Science in Engineering with a concentration in Robotics
 - Recipient of 4-year 50% Tuition Merit Scholarship
 - Graduation: May 2023, GPA: 3.38
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Skills

Programming: Linux, Python, Java, GitHub/GitLab, Rust, OpenCV, ROS Arduino, MATLAB, C++

Machining: FDM Printing, Resin Printing, Laser Cutting, Lathe, CNC Mill, Thermo-Forming, Injection Molding, Casting, Welding, Plasma Cutting, Sheet Metal Forming, CAM

Software: SOLIDWORKS, OnShape, Microsoft Office Suite, Adobe Creative Cloud

Experience

ThayerMahan - Groton CT - Research and Development Intern

May - December 2022

- Utilized Python and OpenCV to control FLIR camera and continuously capture and stitch together 360-degree thermal image
- Worked on development, calibration, field testing and maintenance for autonomous jetski
- Developed Arduino code and prototyped circuitry for physical whale blow simulator

University of Washington - Applied Physics Laboratory - Seattle, WA - Ocean Engineering Intern

June - August 2021

- Modified commercially available 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 incrementally validate functionality of project

Olin IT Helpdesk - Needham, MA - Technical Support

October 2018 - September 2023

- Worked with users to troubleshoot and fix broken devices and software issues
 - Managed and maintained a campus-wide network of computers and connected devices
 - Setup and ran AV systems for crucial presentations and events
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Projects

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

Robotic Tug-Boat

- Wrote 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

- Wrote a Python program in under 24 hours to solve a Rubik's cube and output to an Arduino
- Optimized the program using graph data structures and multiple search algorithms later
- Won MakeHarvard2020

Shadow Boxing Robot

- Worked on the mechanical portion of a robot designed to mirror a person's movement
- Designed, assembled, and tested 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 requirements