KEVIN MACAULEY

kevinmacauley13@gmail.com | (508) 965-8452 | LinkedIn

TECHNICAL SKILLS

- C++, Python, ROS(2), Computer Vision, Tensorflow, Golang, Java, Javascript, Gazebo, Git, Linux, Docker
- Solidworks, OnShape, Inventor, MATLAB, Arduino, Excel, Office Suite, Google Suite

ENGINEERING EXPERIENCE

Fab Fellow, *University of Wisconsin-Madison*, Madison, WI | August 2023-Present
- Manage Design + Innovation labs and oversee student staff.
- provide instructional support for interdisciplinary design and capstone courses.

Guest Student, *Woods Hole Oceanographic Institution*, Woods Hole, MA | May 2023-August 2023
- Designed, developed and tested a multi-directional underwater glider that moves based on changes in buoyancy.
- Developed controlling and path planning software utilizing sensor data.
- Created a simulation using ROS 2 and Gazebo for the development of control algorithms.

Engineering Assistant, *Woods Hole Oceanographic Institution*, Woods Hole, MA | May 2022-August 2022
- Supported Dr. Yogesh Girdhar on the continuous improvement of CUREE, an autonomous underwater vehicle designed for visual and acoustic coral reef monitoring in the WARPLab.
- Wrote software and developed analog electronics for a hydrophone array used in acoustic data acquisition.
- Designed and modified mechanical components such as skid supports for the vehicle and dome port front housing which contained two stereo cameras sets.

Software Engineer, *Oasis Systems*, Boston, MA | May 2020-December 2020**,** June 2019-August 2019
- Contracted to work for the United States Air Force at the Kessel Run Experimentation Lab software factory.
- Independently developed a real-time collaboration app built on React.js and Golang.
- Presented product progress during weekly branch meetings with senior leadership, collaborated effectively with members of the product team, and represented the team company-wide.

Manufacturing Operations Intern, *Cogmedix*, West Boylston, MA | June 2021-August 2021
- Collaborated in the continuous improvement of manufacturing processes using lean and 6S principles in an FDA-regulated and ISO 13485 certified medical device manufacturing environment.
- Developed material flow carts to reduce cycle time and enhance product quality.

RESEARCH

Robotics Engineering, Applied Controls, and Haptics Lab (REACH), *University of Wisconsin*, Madison, WI | August 2021 - May 2023
- Worked on refactoring and parallelizing code from Python to C++, significantly reducing the run time of human-in-the-loop software. This software can automatically determine object models, pose, and articulation for a user-specified set of points, leveraging nonlinear fitting and the interactive closest point algorithm for intra-vehicular activities at NASA.

EDUCATION

The University of Wisconsin-Madison, *College of Engineering* | Expected Graduation: May 2025
- *Major*: Research M.S. Mechanical Engineering**, GPA: (In Progress).**
- *Relevant Coursework:* High-Performance Computing for Engineering Applications , Intro to Optimization.
- *Scholarships:* Fab Fellow (2023)

The University of Wisconsin-Madison, *College of Engineering* | Expected Graduation: May 2025
- *Major*: B.S. May 2023 Mechanical Engineering**, GPA: 3.974.**
- *Relevant Coursework:* Intro to Robotics, Intro to Artificial Neural Networks, Measurements and Instrumentation.
- *Scholarships:* William J. Landman Scholarship (2022), LyondellBasell Futures in the Chemisphere Scholarship (2021), Sarin Family Scholarship (2020), Armed Forces Communications & Electronics Association (AFCEA) Fellowship Award (2019).

LEADERSHIP

Vice President, *Wisconsin Cycling Club*, Madison, WI | May 2022- May2023
Club Advisor, *Wisconsin Human Powered Vehicle Club*, Madison, WI | May 2022-Present
Eagle Scout, *Boy Scouts of America, Troop 2*, Marlborough, MA | Completed: October 2018
Massachusetts Boys State Delegate, Easton, MA | June 2018