Peter Murray

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Worcester, MA
Project portfolio: https://petmurr.github.io

EDUCATION

Worcester Polytechnic Institute *Sep. 2019 – Dec. 2023*
M.S. Robotics Engineering (3.8/4.0), B.S. Mechanical Engineering (3.8/4.0)

Sturgis Charter Public School (3.7/4.0) *Sep. 2016 – May 2019*

PROFESSIONAL EXPERIENCE

Worcester Polytechnic Institute, *Worcester, MA* *Jan 2024 – Jul. 2024*

Acted as assistant manager for WPI's undergraduate robotics labs supporting our robotic arm lab, turtlebot navigation lab, and helping faculty maintain, design and implement lab equipment.

Draper Laboratory, *Cambridge, MA* *May 2023 – Aug. 2023*

Supported hardware-in-the-loop simulation of tactical systems under systems engineering. Validated and troubleshooted network messages and visualized a timeline of network data and system flags.

Teledyne Marine, *Falmouth, MA* *May 2022 – Aug. 2022*

Supported mechanical design and development of unmanned underwater Slocum Gliders. Created a simple python tool to collect and synthesize tidal current information, expanding an ocean current model for glider navigation.

EdgeTech, *Wareham, MA* *Jun. 2021 – Sep. 2021*

Designed and shipped custom, add-on parts for customer's underwater tow vehicles, 3D printing parts for prototyping and production. Created part and assembly models & drawings for new and existing products.

PROJECTS

Armgui, a GUI for Dyanmixel's OpenManipulatorX *Sep. 2023 – Dec. 2023*
Armgui is a user interface written in C++ with Dear ImGui, an immediate-mode GUI library. Armgui was built to both test and create an easier way to get familiar with the OpenManipulatorX, a small scale robotic manipulator.

RRT Kinodynamic Planner for Planar Manipulators *Sep. 2023 – Dec. 2023*
Built an actuated planar manipulator simulator in python to dynamically navigate a workspace using the RRT algorithm.

Programmatic Motion Planning Animations *Sep. 2023 – Dec. 2023*
Created animations with *Manim* to visualize and explain compelling search algorithms and robotic configuration space topology.

Formula Electric *Sep. 2022 – May 2023*
Helped design, build, and manufacture a more reliable and serviceable accumulator and power systems on WPI's electric racecar that competed in the "Formula Hybrid + Electric" 2023 competition. Placed 3rd overall!

High Power Rocketry Club *Sep. 2021 – May 2023*
Helped design, build, and troubleshoot PCBs for 2022-23's rocket. Helped design, model, and prototype the UAV payload for HPRC's 2021-22 competition rocket.

SKILLS

Mechanical: Solidworks, Fusion 360. Experience with part/assembly drawings, DG&T, Laser cutting, CNC machining basics.
Programming: Python, MATLAB, C++, currently learning more about embedded implementations.
Other: Familiar with ROS 1, a bit of ROS 2. Know the basics of KiCAD and Altium designer.
TWIC certified.