Todd Petry

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Education

Worcester Polytechnic Institute — Worcester, MA

B.S. in Mechanical Engineering and Robotics Engineering — *Aug. 2023 – May 2027*

- Cumulative GPA: 4.0
- Relevant coursework: Static Systems, Dynamic Systems, Mechanical Applications in Robotics, Materials Science, Embedded Computing
- Relevant coursework to be completed by May 2026: Control Engineering, Stress Analysis, Robotic Manipulation, Robotic Navigation
- Activities: IEEE, AUV Team

Experience

Test Engineering Intern — May 2025 – August 2025

Locus Robotics — *Wilmington, MA*

- Designed and fabricated custom test fixtures for robot camera arrays, PCBs, and I/O ports using SolidWorks and 3D printing. Also developed a fixture and automated test script in Python to verify 3D LiDAR functionality.
- Assisted with troubleshooting faulty robots on the production floor using the Linux CLI, diagnosing issues and reporting findings.
- Produced engineering drawings and documentation for the above fixtures, incorporating them within the company PLM system.

Undergraduate Research Assistant — September 2023 – December 2024

WPI Autonomous Vehicle Mobility Institute (AVMI) — *Worcester, MA*

- Worked with a team of students to implement off-road vehicle simulations, where I investigated various techniques to visualize the simulations.
- Designed, modeled, and rendered a new laboratory space for the AVMI using Blender.

Machine Shop Intern — June 2024 – August 2024

AriZona Beverages — *Woodbury, NY*

- Saved the company ~$15000 by 3D modeling a copper collector shoe model and manufacturing 100 units in their machine shop for use in the AriZona factory. Used Autodesk Fusion to CAD the design and program CAM routes to the CNC mill.
- Became proficient with using machine shop tools such the laser cutters, CNC mills, milling machines, and 3D printers through various projects.
- Soldered custom LED backlit signs, laser cut design templates for company projects, and repaired PLC-operated clocks.

Projects

Equatorial Mount for Astrophotography — May 2025 – Present

- Designed a telescope mount capable of tracking celestial objects with a load of 10 kg, integrating stepper motors with planetary and harmonic drives in SolidWorks.
- Created custom PCB controller in KiCAD with a Teensy microcontroller, ESP WiFi module, stepper motor drivers, and various I/O interface.

Leadership Experience

Eagle Scout — April 2016 – August 2023

Scouts BSA Troop 8

- Planned and carried out a community service project, leading 20 volunteers over 200 human-hours of work to build a stone labyrinth at a local nature center.
- Held troop positions such as senior patrol leader, assistant senior patrol leader, patrol leader, and troop guide for a total of five years, which included leading meetings, planning monthly trips, and teaching skills to others.

President — September 2022 – May 2023

FIRST Robotics Team 5099

- Led a team of about 15 students to plan, engineer, assemble, program, and test a robot over the period of 8 weeks for the FIRST Robotics Competition.
- Placed 2nd in competition against 47 local and international teams.

Technical Skills

Skills: Autodesk Fusion, SolidWorks, KiCAD, 3D Printing, Laser Cutting, Soldering, Arduino, Microsoft Office
Programming Languages: Python, C, C++