

ADAM BUIER

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EDUCATION

Worcester Polytechnic Institute (WPI), Worcester, MA

May 2027

B.S. Mechanical Engineering, B.S. Robotic Engineering, GPA 3.4/4.00

EXPERIENCE

Wisconsin HTS Axisymmetric Mirror, Engineering Intern, Madison WI

May 2024 - Aug 2024

- Designed and implemented stepper motor systems for a neutron detection probe using LabVIEW and SolidWorks, documenting performance in high magnetic field environments and presenting results.
- Rapidly prototyped a moisture detection switch using Solidworks and 3D printing, improving cryogenic cooling system leak detection.
- Machined and installed high-current transmission lines to meet GD&T standards with 0.001-inch tolerances for superconducting magnets.

Ma-Ka-Ja-Wan Scout Reservation, Director, Counselor, Pearson WI

June 2019 - Aug 2023

- Led teams of 3-5 to develop and execute programs for campers aged 10-16, including axe throwing, raft building, and cooking events.
- Coordinated service and ecological improvement projects which contributed to camp sustainability and community service efforts.

RELEVANT PROJECTS

Combat Robot (BattleBots)

- Designed, simulated, soldered, and built a 3lb combat robot using SolidWorks for 3D modeling and ANSYS for performance simulations.
- Produced detailed engineering documentation, utilizing Fusion 360 for CAM and GD&T principles to align CNC-machined parts with 3D-printed components.
- Earned a global ranking in the National Havoc Robot League (NHRL).

Autonomous Collector Robot

- Designed and programmed an ESP32-based robotic system with sensors and computer vision for autonomous object collection, showcasing automation skills applicable to warehouse robotics.
- Maintained thorough version control and detailed engineering documentation for all design processes.

Autonomous Walker

- Engineered and programmed a 2-DOF walking robot to demonstrate efficient kinematics and coordinated motion.
- Integrated precise motor control to maintain stability and traverse obstacles, enhancing capabilities for mobile robotic systems.
- Created detailed CAD models and simulations, enabling rapid prototyping and iterative design improvements.

SKILLS

Engineering Tools: SolidWorks, Fusion 360, Onshape, ANSYS, KiCad

Prototyping: Documentation, 3D Printing, Machining (Vertical Mill, Lathe), GD&T, Soldering, Welding

Programming: LabVIEW, Python, Java, C, C++, HTML, MATLAB, ESP32, Arduino

Other: Microsoft Office, Excel, Word, Outlook, PowerPoint, Workday, Google Docs, Sheets

ACTIVITIES

Eagle Scout: Boy Scouts of America

Lab Monitor: Oversaw 3D printing and prototyping workflows at WPI Collab Lab

Social Media Head: WPI Combat Robotics Team

School Mascot Manager: WPI Student Alumni Society

Member: American Society of Mechanical Engineers