ADAM BUIER

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EDUCATION

Worcester Polytechnic Institute (WPI), Worcester, MA May 2027

B.S. Mechanical Engineering, B.S. Robotic Engineering, GPA 3.55/4.00

SKILLS

Programming Languages: Python, Java, C, C++, Racket, MATLAB, Labview
Software: SolidWorks, Fusion 360, Inventor, Onshape, Arduino IDE, KiCad
Technical Skills: Welding, 3D Printing, Graphic Design, Soldering

EXPERIENCE

Engineering Intern, Wisconsin HTS Axisymmetric Mirror, Madison WI May 2024 - Aug 2024

- Developed a LabVIEW VI to control stepper motors via Arduino in a high magnetic field environment, evaluating their integration into a neutron detection probe.
- Engineered and implemented high-power systems: Designed and installed high-current transmission lines and supports for magnets, assembled a 300A power supply, and installed air manifolds and safety systems for cryogenic cooling.
- Contributed to plasma systems and milestones: Installed and maintained a turbo pump for first plasma, designed a magnetic field tester, and fabricated custom components for their first plasma achievement.

Director, Counselor, Ma-Ka-Ja-Wan Scout Reservation, 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, contributing to camp sustainability and community service efforts.

PROJECTS

Combat Robot

- Designed, modeled, soldered, and built a 3lb hammer saw robot named "Chippy" featuring a blade-equipped arm engineered to puncture and destroy opposing bots.
- Performed detailed calculations to optimize the bot's design for enhanced performance.of 3D printed and machined custom parts.
- Competed in the National Havoc Robot League, achieving a record of 1-1 in combat.

Rocket Payload Landing System

- Collaborated with a team of ten to create design, fabrication, and integration of a landing system for a rocket's payload, engineered for launches up to 10,000 feet altitude.
- Innovated a versatile knee joint for rocket landing legs, enhancing shock absorption, and designed a foot to maintain ground contact in adverse weather.

Autonomous Launcher Robot

- Collaborated with a team to design and build a robot that picked up and launched colored balls through matching targets.
- Performed force analysis to optimize the robot's design for improved performance and efficiency.
- Successfully participated in a competitive environment against 12 other robots, placing 1st overall.

ACTIVITIES

- **Eagle Scout**, Boy Scouts of America Aug 2020
- **Social Media Head**, WPI Combat Robotics Team, WPI Sept 2023 - Current
- **Lab Monitor**, Collab Lab, WPI Sept 2023 - Current
- **Member**, Student Alumni Society, WPI Sept 2023 - Current
- **Member**, American Society of Mechanical Engineers, WPI Aug 2024 - Current