Patrick C. Grosse

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Skills and Qualifications

Solidworks, OnShape, MATLAB, Data Analysis, Microsoft Office, Communication, Machining, Additive Manufacturing, Analytical Thinking

Education

Northern Arizona University, Steve Sanghi College of Engineering **Location:** Flagstaff, Arizona
Degree: B.S. Mechanical Engineering **Graduated**: May 2025
GPA: 3.06 / 4.00

Relevant Work Experience

Kenautics Inc.

Location: San Diego, California
Position: Mechanical Engineering Intern **Duration:** May 2022 – August 2022

- Designed and developed an iteration of Kenautics' buoy using SOLIDWORKS, using previous model for reference of upgraded parts.
- Learned GD&T and produced engineering drawings for manufacturing.
- Conducted controlled drop tests at varying heights to evaluate durability and water impact resistance.

Position: Kenautics, Mechanical Engineering Intern **Duration:** May 2023 – August 2023

- Led the redesign of the buoy to meet company and customer requirements.
- Drafted detailed engineering drawings following GD&T standards.
- Introduced additive manufacturing to produce 3D prototypes, reducing costs and expediting bench testing.

Position: Kenautics, Mechanical Engineering Manufacturer **Duration:** May 2024 – September 2024

- Refined the buoy model to align with updated engineering specifications.
- Created precise GD&T-compliant drawings for manufacturing.
- Utilized additive manufacturing to validate tolerances and improve visual representation for public venues.

Cline Library's MakerLab

Location: Flagstaff, Arizona
Position: Creation Commons Assistant **Duration:** March 2022 – May 2025

- Assist patrons with 3D printer troubleshooting, CAD software, and project planning.
- Collaborate with students to prototype and fabricate custom designs using 3D printers.
- Developed expertise in quick thinking, 3D print fabrication, and communication skills.

Projects

Marine Energy Collegiate Competition

Location: Flagstaff, Arizona
Position: CAD & Manufacturing Lead **Duration**: August 2024 – May 2025

- Used skills from previous internship experiences to design and manufacture an open water energy generator.
- Obtained and managed a $20,000 budget, ensuring efficient use of materials and resources.
- Communicated with team members on progress of design and manufacturing of generator design.
- Partnered with university clubs and public clubs to bring awareness of a greener economy to the states.

Onewheel VESC Conversion

Duration: August 2023 – Present

- Engineered a custom Plug-in Electric Vehicle by converting a Onewheel XR, leveraging open-source resources.
- Designed and fabricated a custom controller housing and other components using additive manufacturing and precision machining.
- Integrated and fine-tuned a VESC-based motor controller, optimizing performance and ride dynamics.

Awards and Achievements

- Earned the rank of Eagle Scout (2019), demonstrating leadership, project management, and community service.
- Achieved 4th Degree Black Belt in Karate (2022) and Blue Belt in Brazilian Jiu-Jitsu, showcasing discipline, dedication, and teaching experience.
- Member of the NAU ASME, NAU Judo, NAU Energy, & NAU Hiking club.