JONATHAN BEHRENS

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Summary

Student pursuing a career in mechanical engineering, with over 3 years of experience (industry and academia) in leadership, quality engineering, and mechanical design. Skilled in producing technical drawings (GD&T) and engineering documentation (IEEE). Highly adaptable with metrology and CAD tools; certified in SolidWorks; proficient in C, MATLAB, and Python for engineering applications. Seeking to apply academic knowledge to real-world design and manufacturing challenges. Passionate about thermodynamics, aerodynamics, and quality/review.

Skills

- Metrology/Quality Engineering: laser line scanners, coordinate measuring machine, structured light scanner
- CAD Software: SolidWorks, Fusion 360, SolidWorks PDM
- FEA Software: ANSYS, SolidWorks Simulation
- Mechanical Design: Geometric Dimensioning & Tolerancing, design for manufacturing, LEAN
- Project Management: academic and industry projects
- Programming: Arduino/C, MATLAB, Python, TypeScript

Work Experience

Process Improvement Intern – WindAid Institute – Trujillo, Peru

May 2026 to August 2026

- Implemented Failure Modes and Effects Analysis for wind turbine blades
- Built mechanical testing plans for validation of future blade improvements
- Established and documented of clear design standards for blades
- Led 2 process improvement trial teams of 3-5 non-technical personnel
- Constructed a blade bill of process and process manual
- Process improvements expected to reduce costs by 3-7%, manufacturing time by 2-3 days

Tool Team Engineering Intern – Victaulic – Easton, PA

May 2025 to August 2025

- Practiced D/PFMEA process, Gage R&R, and operated state-of-the-art metrology tools
- Implemented FEA (Ansys, self-taught) and CAD (SolidWorks) in the design of electromechanical tools
- Validated computer designs through a comprehensive testing campaign, exceeding lifecycle requirements by a factor of 1.1

Engineering Department Work Study – Messiah University – Mechanicsburg, PA

August 2024 to Present

- Designed and verified a thermocouple reader system for lab use under department faculty
- Consulted datasheets and technical references to construct and validate electronic hardware
- Reviewed stakeholder feedback and lab testing to implement system improvements
- Presented full documentation of the project to engineering faculty

Certifications

- 3DS SolidWorks Certification (CWSA) in Mechanical Design

Education

Bachelor of Science in Mechanical Engineering – Messiah University – Mechanicsburg, PA

August 2023 to Present

- Collaboratory: ongoing work for WindAid Peru in an advisor/lead capacity over a team of 4
- Student Project Manager: led 5 interdisciplinary students in initial design of thermocouple reader
- Thermodynamics, Fluid Dynamics, Dynamics & Vibrations, Mechanical Design courses

Project Highlights

Jay: My 2004 Subaru WRX – Personal Project

May 2023 to Present

- Diagnosed mechanical and electrical issues using OBDII and visual inspection
- Designed and installed a custom intake system: cold-air intake, airbox, and intercooler
- Repaired and replaced cooling system lines with upgraded hoses
- Integrated safe electric attachments for LED lighting, sound system, and future improvements

Agentic Coding for Custom Applications – Academic Project

August 2025 to Present

- Built apps, designed and hosted websites, managed stakeholder feedback
- Used AI applications to build apps for niche data analysis tools and integrations

Languages

- **Spanish** – Expert, Full Professional
- **English** – Fluent, Native