Atharva Joshi

(814)-862-8107 | 475 E College Avenue, University Park, PA 16802
atharva0228@gmail.com | https://www.linkedin.com/in/atharvajoshi2026/| https://github.com/WarGodAKJ

Education

B.S. Mechanical Engineering, Minor: Mechatronics **GPA: 3.65/4.00**
The Pennsylvania State University, University Park, PA **Anticipated Graduation Date: 12/26**
Relevant Coursework: Heat Transfer, Fluid Mechanics, Thermodynamics, FEA & CFD, System Dynamics, Manufacturing Processes

Professional Experience

Mechanical Integrity Engineering Intern, Amphenol Communication Solutions 05/25 – 08/25
Valley Green, PA

- **Validation & Compliance**: Executed rigorous system validation plans to ensure strict compliance with ISO/IEC safety and reliability standards, directly supporting mission-critical infrastructure performance.
- **Root Cause Analysis**: Spearheaded investigations into qualification failures, utilizing data analysis to identify failure modes and authoring technical reports to drive design corrections for long-term integrity.
- **Testing Automation**: Collaborated with engineering teams to design custom fixtures using SolidWorks, facilitating high-volume automated testing to streamline data collection and reduce testing cycle time.

Undergraduate Research Assistant, Human-Centered Robotics Lab & S.H.A.P.E. Lab, Penn State 08/24 – Present
State College, PA

- **Simulation & Modeling**: Apply computational analysis to model complex thermal and structural behaviors, validating theoretical predictions against experimental data with <2% error to ensure safety factors are met.
- **Optimization**: Optimize mesh refinement and boundary conditions for numerical analysis, reducing computational resource usage by 40% while maintaining high fidelity in stress prediction models.

Lab Technician, OriginLabs, Penn State 08/24 – Present
University Park, PA

- **Design for Manufacturing (DFM)**: Re-engineered mechanical assemblies using DFM principles, reducing prototyping iterations by 40% through systematic design reviews and precise documentation.
- **Electro-Mechanical Integration**: Integrated electromechanical components into cohesive assemblies, ensuring seamless functionality between hardware mechanisms and control interfaces.

Leadership Experience

Design Team Officer / Project Lead, American Society of Mechanical Engineers (ASME) Club 01/24 – Present
University Park, PA

- Direct a 15-member engineering team, coordinating weekly technical design reviews and tracking project milestones to ensure adherence to strict timeline and budget constraints.
- Lead the development of firmware for a closed-loop embedded system, collaborating with multi-disciplinary peers to integrate sensor data and feedback mechanisms for precise control.

Projects

Portfolio: https://wargodakj.github.io/atharva_joshi_portfolio.github.io/

- **Casting Process & Quality Control**: Conducted a comparative study of conventional sand casting versus 3D sand-printed mold casting, analyzing defect rates and thermal properties to recommend process improvements for industrial applications.
- **SpotMicro Quadruped Robot**: Executed hardware system integration and programmed control logic for an open-source quadruped robot, utilizing Python for motion planning, sensor integration, and automation.
- **Dog Food Dispenser (Accessibility Design)**: Prototyped an accessible, mechanically operated dispenser using SolidWorks and DFAM principles, focusing on user-centered design and mechanical reliability.

Technical Skills

- **Analysis & Simulation**: Ansys (Thermal & Structural FEA), SolidWorks CFD, MATLAB (Data Analysis), Simulink.
- **Digital Tools & Programming**: Python (Automation), Microsoft Office (Advanced Excel, PowerPoint), C++, Minitab.
- **CAD & Systems**: SolidWorks, System Validation, Geometric Dimensioning & Tolerancing (GD&T), Root Cause Analysis.