

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: 3.62/4.00

The Pennsylvania State University, University Park, PA

Anticipated Graduation: December 2026

Relevant Coursework: Mechanical Design, Mechatronics, Robotics, System Dynamics, Mechanical Vibrations, FEA & CFD

Technical Skills

- **CAD & Product Data:** Creo, Windchill/Teamcenter PLM, SolidWorks, Siemens NX, advanced assemblies, ASME Y14.5 GD&T, tolerance stacks, drawings and BOM documentation.
- **Robotics & Mechanisms:** Electromechanical mechanisms, servo actuation, sensors, IMUs, PCBA integration, kinematics, PID control, dynamic systems, prototype assembly and debugging.
- **Analysis & Validation:** Ansys, Abaqus, MATLAB, Simulink, structural/thermal FEA, static/dynamic analysis, shock/vibration, torque testing and root-cause investigation.
- **Embedded & Manufacturing:** C++, Python, Arduino/Teensy, data acquisition, multimeter diagnostics, DFM/DFA, NPI support, additive manufacturing, fixture design and technical reviews.

Professional Experience

Mechanical Engineering Intern, TE Connectivity

05/26 – 08/26

Middletown, PA

- Led an OSFP 224G electromechanical test module from concept through preliminary release, creating Creo assemblies, detailed GD&T drawings, and Windchill documentation for manufacturing.
- Performed tolerance stack-ups for 3 interference/clearance conditions, validated calculations, and quantified failure risk, including 306 PPM, to resolve component-interface risks.
- Designed a QSFP 224G connector organizer from legacy components; characterized microscope-scale plastic detent behavior and sourced McMaster-Carr hardware to complete the mechanism.
- Authored an automation RFQ translating factory observations into mechanical, sensor, HMI, stamped-part handling, and supplier requirements for equipment implementation.

Mechanical Integrity Engineering Intern, Amphenol Communication Solutions

05/25 – 08/25

Valley Green, PA

- Designed and assembled a SolidWorks PCB fixture around trace-clearance constraints for repeatable shock/vibration qualification of electromechanical hardware.
- Conducted controlled torque trials, isolated screw-length and material/preload behavior as the primary failure mechanism, and presented corrective findings to client engineers.
- Performed electrical characterization and infrared thermal imaging; analyzed results in Minitab/Excel and automated traceable validation reports for 15+ projects.

Undergraduate Research Assistant, Human-Centered Robotics Lab & S.H.A.P.E. Lab

08/24 – Present

State College, PA

- Integrated a control PCBA, IMU, sensors, 12 servos, and a Teensy controller into a SpotMicro quadruped; developed Arduino/C++ data acquisition and PID balance control on inclines up to 60 degrees.
- Conducted Ansys/Abaqus convergence studies on multi-material LPBF structures, achieving under 2% deformation error while reducing simulation time by 40%.
- Re-engineered an OriginLabs medical tablet holder around a 180-degree detent mechanism, applying DFM and iterative validation to reduce prototype iterations by 40%.

Projects

Portfolio: <https://wargodakj.github.io/>

- **5-DOF Robotic Arm:** Developed MATLAB inverse-kinematics and workspace-feasibility checks, then validated the model through physical pick-and-place trials.
- **2-DOF SteadyCam:** Developed nonlinear and state-space models in MATLAB/Simulink and reduced peak disturbance response by 11.7% through controller optimization.
- **Visual Navigation Aid:** Led a 15-member team integrating ultrasonic sensors, vibration motors, Arduino controls, and a custom SolidWorks housing into a functional haptic prototype.