Shivam Gaind

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Penn State University - B.S. Mechanical Engineering **Graduation: Spring 2026** **Major GPA**: 3.89/4

Work Experience

Manufacturing Engineering Intern | Charlottesville, VA | **Northrop Grumman (MS)** Jun 2025 – Aug 2025

- Developed and tested use cases for AR headsets (HoloLens 2, Apple Vision Pro, Meta Quest) to support defense manufacturing tasks with real-time, step-by-step visual instructions
- Helped implement hands-free digital work instructions to streamline workflows, reduce assembly errors, and improve technician efficiency
- Designed a custom radio antenna stand to support 80 lbs with 45-degree rotational capability, improving stability and technician access; design was adopted across the entire shop floor for all antenna assemblies

Mechanical Engineering Intern | Erie, PA | **Wabtec (GE Transportation)** May 2024 – Aug 2024

- Selected as 1 of 200 interns from a pool of 6,000+ applicants
- Designed cost-effective connector using PLA, implemented factory-wide to reduce production costs
- Conducted research study to identify how different parameters in additive manufacturing affect tolerances

100K Strong Colombia Program | State College, PA | **Penn State** Oct 2024 – May 2025

- Designed and presented a proposal for an off-grid energy and water system in rural Colombia as part of a USDA-funded exchange with Universidad del Norte

Drivetrain Development Engineer | State College, PA | **Formula SAE, Penn State** Aug 2024 – Dec 2024

- Applied SolidWorks training to design and model chassis components for compliance with new competition regulations, documenting all design changes

Research Assistant | State College, PA | **Applied Research Lab, Penn State** Sept 2023 – Oct 2024

- Assisted Penn State Professor with research on algorithms designed to identify both the quantity and size of defects that arise in metal-based additive manufacturing processes
- Through random sampling and mathematical techniques, we analyzed the distribution with the intent of establishing a new probability model

Intern & Research Assistant | Batavia, IL | **U.S. Dept. of Energy (Fermilab)** June 2021 – June 2022

- Spent one year working with a team of physicists developing a satellite to detect X-rays released by dark matter
- Analyzed three main heat-generating circuits in the satellite and designed system to transfer heat to radiator

Research Intern | Evanston, IL | **Northwestern University** June 2021 – Aug 2021

- Studied medical data of Atrial Fibrillation patients who underwent pulmonary vein isolation procedure
- Analyzed left atrium dysfunction in the heart of these patients and assessed risk of clot formation and stroke

Engineering Mentor | St. Charles, IL | **Project Lead the Way (PLTW) Engineering Capstone** Sept 2024 – Present

- Provide advice and feedback to a student team working on developing solutions for gutter downspout repair, through monthly meetings and preliminary design reviews

Skills and Awards

- **Software for Engineering and Design:** MATLAB, ROBOTC, C++, Python, Java, Simulink, NX, SolidWorks, AutoCAD, Fusion 360, Inventor, Blade, Cura, Blender, HOMER Pro
- **Manufacturing:** 3 Axis Milling Machine, Laser Engraving, Power Tools, CNC machining, 3D Printing
- **Awards**: Julie Pawl Teen Court Scholarship Recipient