

PRANAV MADHAVAN

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EDUCATION

Purdue University

Master of Science in Mechanical Engineering – *Starting Spring 2025*

Bachelor of Science in Mechanical Engineering

Minors in Business Economics and Organizational Leadership

Expected Grad. **Dec 2025**

Expected Grad. **Dec 2024**

GPA: 3.31

- **Outstanding Junior Award Finalist** for leadership, impact, and academic excellence (1 of 3 out of ~400 Mechanical Engineering students)

PROFESSIONAL EXPERIENCE

Tesla

May 2024-Aug 2024

Process Engineering Intern

Buffalo, NY

- Spearheaded improvements for First-Pass Yield (FPY), Scrap reduction, Last-Pass Yield (LPY), etc. on Supercharger and Power Electronics Lines
- Saved \$189,000/year performing Root Cause Analysis on defected NACS adapters with DMAIC and Ishikawa (Fishbone Diagram) methodologies
- Designed rework procedure and part reintroduction plan to save \$142,000/year on defected over molded PCBAs with 11% LPY increase
- Redesigned Production Line for new V4 Magic Dock Top-Level-Assembly (TLA), leading trial and process changes to balance station cycle times
- Developed sub-assembly line, leading process implementation for High-Voltage Junction Boxes, balancing cycle time and preventing bottlenecks
- Utilized SQL Queries to allow big-picture analysis of part failures using parameters including part number, serial number, date, failure type, etc.

Kohler Co.

May-Aug 2022 | May-Dec 2023

New Product Integration (NPI) Co-Op

Kohler, WI

- New Product Integration lead for project in retail, wholesale, and commercial markets, leading cross-functional manufacturing operations teams
- Drove ramp readiness to ramp up production from testing phases to mass production, ensuring end-to-end achievement of quality & safety metrics
- Led 2 VAVE Projects, driving annual cost savings of \$2,000,000+ through changes in material selection and manufacturing/fabrication process
- Saved \$110,000 by analyzing risk to rework project timeline, and freight methods from suppliers to prevent delays to project launch date
- Utilized SAP for Materials Resource Planning (MRP), Enterprise Resource Planning (ERP), and Manufacturing Bill of Materials (MBOMs)

Orient Electric

May 2019

Research & Development Intern

New Delhi, India

- Ran decibel and lifespan tests on fan prototypes, testing over 200 fans for quality assurance and fixed fans with defects or customer complaints
- Investigated relationship between manufacturing cost, price, and sales and their dependence on consumer demographics and time of purchase

RESEARCH EXPERIENCE

Generative Design and Artificial Intelligence for Olympic Bicycles | Dr. Jitesh Panchal

Jan 2024-Present

Undergraduate Researcher

West Lafayette, IN

- Developed performance bicycle for the International Olympic Committee to prove the capability of Artificial Intelligence (AI) in mechanical design
- Designed negative molds for Carbon Fiber Wet layups and Computer-Aided Manufacturing (CAM) with Fusion 360 for CNC Gantry Router
- Conducted Finite Element Analysis (FEA) with Ansys Composite PrepPost (ACP) for static loading, fatigue failure, and transient drop test analysis
- Performed Carbon Fiber Wet Layups using custom mold and vacuum bagging techniques successfully for highly organic generative geometry

LEADERSHIP AND INVOLVEMENT

American Society of Mechanical Engineers (ASME)

Sep 2021-Present

Internal Vice President, Design Team Lead, Chairman of the Board

West Lafayette, IN

- Managed 7 technical design teams with 500+ members, overseeing progress, driving short-term project goals and long-term strategic initiatives
- Led team of 50+ members of ASME leadership, delegating responsibilities, aligning personal and team goals, and providing needed resources
- Oversaw 8 sub-teams in designing, testing, and manufacturing using rapid prototyping for remote-controlled water vehicles and ATVs
- Raised over \$30,000 in grant money for design teams use, project development, and outreach while managing spending, and allocating budgets

Global Engineering Seminar (ME 290) | Peer Mentor

Jan 2023-May 2024

- Mentor 5 sophomore Mechanical Engineering students on classes, leadership/club involvement, technical development, and professional aspirations

Purdue Student Government (PSG) | Board of Directors on Programming Committee

Sep 2021-May 2022

- Organized bi-monthly events for members of PSG BOD & Senate within a given budget and coordinating with other campus organizations

Engineering Projects in Community Service (EPICS) | Project Partner Liaison and Team Member

Aug 2020-May 2021

- Spearheaded program to interest 700 middle schoolers to pursue an engineering degree | Improved process for admissions into EPICS programs
- Responsible for all communication between the team, stakeholders, faculty, etc. and presented project progress, issues, goals, successes