## EDUCATION

**Purdue University, College of Engineering, B.S Mechanical Engineering** **August 2023 – Present**

- Cumulative GPA: 3.77
- Relevant Coursework: Thermodynamics, Electricity & Magnetism, Statics

## PROFESSIONAL EXPERIENCE

**Undergraduate Teaching Assistant:** ***ENGR 131*** *August 2024 – Present*

- Facilitated the evaluation and grading of student assignments for an introductory engineering course, with a focus on enhancing students' understanding of fundamental engineering communication techniques, including technical writing and graphical data representation.
- Played an active role in upholding academic integrity and maintaining high standards for student submissions, ensuring a consistent and fair grading process while encouraging continuous improvement.

**Globus Medical:** ***CNC Manufacturing Intern*** *May 2024 – August 2024*

- Improved the operational efficiency of Swiss CNC machines by streamlining setup procedures, reducing setup times, and increasing overall production throughout, contributing to enhanced machine utilization and optimized workflow on the shop floor.
- Conducted thorough quality control checks using precision measurement tools and techniques to ensure that manufactured parts met tight tolerances and adhered to strict quality standards.

**BASF:** ***Undergraduate Researcher*** *August 2023 – April 2024*

- Developed model by applying R and Python and identifying key features through research to craft a comprehensive corn and soybean yield forecasting model with 60% reliability for public use across Indiana, Iowa, and Illinois.
- Conducted in-depth research to identify key features affecting crop yield, including weather patterns, soil conditions, and farming practices, helping to support data-driven decision-making in the agricultural sector.

## PROJECTS & INVOLVEMENT

**Purdue Electric FSAE:** ***Aerodynamics Team Member*** *August 2024 - Present*

- Collaborated with the Aerodynamics team to design and develop aerodynamic components for Purdue's electric Formula SAE vehicle, with a focus on maximizing performance and efficiency. Played a key role in creating features such as front and rear wings, undertrays, and diffusers to enhance vehicle stability/handling at high speeds.
- Utilized advanced CAD software and Computational Fluid Dynamics (CFD) simulations to test and refine designs, ensuring optimal airflow and minimizing drag while maintaining compliance with competition regulations.
- Conducted Finite Element Analysis (FEA) on critical aerodynamic structures to assess stress distribution, structural integrity, and material performance under various loading conditions, ensuring that the components could withstand high-speed forces while maintaining lightweight properties.
- Worked closely with the chassis and suspension teams to ensure seamless integration of aerodynamic components, balancing downforce and drag to improve lap times and vehicle control during high-speed maneuvers.
- Participated in the vehicle testing and validation process, analyzing data from wind tunnel and track testing to refine the aerodynamic package for peak performance further.

**Purdue Orbital:** ***Mechatronics Team Member*** *January 2024 - May 2024*

- Contributed to the research, design, and manufacturing of the stage separation mechanism for a rocket, with a focus on developing precision-engineered keys that ensured the rocket's stages remained securely attached during flight and released correctly when required.
- Utilized Solidworks and Fusion 360 for detailed 3D modeling and simulation, enabling the team to analyze stress points, optimize component geometry, and ensure seamless integration with other rocket systems.

## RELEVANT SKILLS

- CAD / CAM Software: Solidworks, Nx, Fusion 360
- CNC, Finite Element Analysis (FEA), ANSYS: Computational Fluid Dynamics (CFD)
- Office 365 skills (Word, Excel), Lab skills, Agile
- MATLAB, R, Python