ANDRE HAZBUN

765.771.9041 · andrehazbun@gmail.com

EDUCATION

Purdue University College of Engineering — West Lafayette, IN
Bachelor of Science – Mechanical Engineering, GPA: 3.82 — Aug 2021 - May 2025

University of New South Wales — Sydney, Australia
Semester Exchange Program — Jan 2024 - May 2024

EXPERIENCE

Undergraduate Teaching Assistant — West Lafayette, IN
Purdue School of Mechanical Engineering — Aug 2024 - Present
- Held office hours for Basic Mechanics, helping students with problems on trusses, friction devices, kinematics

Undergraduate Research Assistant — West Lafayette, IN
Purdue School of Mechanical Engineering - Koslowski Lab — May 2024 - Aug 2024
- Developed a Python script to model the three-stage chemical decomposition of HMX, predicting reaction rates
- Compared output with FEM simulations, focusing on the mass fractions of the reaction species and temperature
- Used machine learning algorithms to cluster Representative Unit Cell data for more efficient micro-level FEM analysis

Mechanical Engineer Intern — Milwaukee, WI
Milwaukee Tool - Battery New Product Development — June 2023 - Aug 2023
- Developed thermal solutions to enhance battery charging capabilities in below freezing user environments
- Simulated battery warming in Simulink to optimize and ensure safe heat transfer and distribution in battery packs
- Tested and monitored heating element prototypes in a thermal chamber, for detailed individual cell analysis
- Improved cell temperature distribution, reducing cold weather charging time by 45%, and enhancing efficiency

Undergraduate Data Assistant — West Lafayette, IN
Purdue College of Engineering - Office of Dean of Engineering — Nov 2021 - May 2023
- Automated the conversion of weekly web traffic data into active visualizations using Python and Power Query
- Acquired, consolidated, and sorted data for various uses, including internal reports and US News Rankings
- Automated the enrollment data validation process for the College of Engineering's annual census with Python

PROJECTS

Automated Hydropnics System | Project Director — West Lafayette, IN
Purdue ASME & Purdue EPICS — Oct 2021 - Dec 2023
- Pitched and oversaw the development of an automated hydroponic system for Indianapolis community centers
- Devised a closed-loop Arduino controller for precise pH balancing, nutrient dosing, and oxygen regulation
- Created a MATLAB calculator script to find optimal pump settings based on a given system configuration
- Led a team of 20+ engineering students through a comprehensive design process over the course of 4 semesters

SKILLS

Software LabVIEW, MATLAB, Simulink, SolidWorks, NX, Creo, AutoCAD, Fusion 360, Inventor
Languages Python, C++, C, Linux, JavaScript, HTML, CSS