# DARA SAFE

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## OBJECTIVE

Seeking a role in a professional development program to apply engineering expertise and acquire a well-rounded understanding of business operations.

## EDUCATION

**University of Wisconsin – Madison**

*B.S. Mechanical Engineering and Energy Sustainability Certificate, Class of December 2023*

- Overall GPA: 3.54 / Major GPA: 3.66

## SKILLS

- SOLIDWORKS and Autodesk Proficiency
- CFD and Finite Elemental Analysis for Process Optimization
- Microsoft Office 365 Tools Expertise
- Python and LabView for Data Analysis

## PROFESSIONAL EXPERIENCE

**Gas Cleaning Technologies** 5/23 – Present

*Process Engineer Intern*

- Collaborated with the process engineering team on various projects, including a steel plant site evaluation to optimize their air pollution control system.
- Conducted computational fluid dynamics (CFD) modeling (ANSYS/Phoenics), data modeling, and pressure loss modeling to develop a set of recommendations resulting in a 20% increase in emission capture efficiency.

**University of Wisconsin – Madison Engine Research Center** 6/22 – 8/22

*Combustion Research Assistant*

- Worked 4-6 hours daily designing, building, and fixing lab equipment, as well as managing and organizing lab supplies.
- Learned about diesel and gas internal combustion engines and how to identify testing requirements for optimizing combustion performance and pollutant emission control.

**Spectrum Brands** 10/21 – 12/21

*Product Design Intern*

- Worked 40 total hours designing and collaborating with a cohort of engineering students to redesign a Russell Hobbs kettle utilizing the implementation of light piping while aiming to stay under 5% of manufacturing costs.
- Learned and applied early-design research, design thinking principles, design of manufacturing, and decision matrix to ensure performance and aesthetic quality meet the final customer's needs.

## PROJECT EXPERIENCE

**Hydrogen and Electrochemical Research for Decarbonization (HERD) Lab** 1/23 – Present

*Electrochemical Research Assistant*

- Gained a comprehensive understanding of fuel cell technology and conducted rigorous literature reviews of perovskite materials for air electrodes in solid oxide electrolysis and iron-air battery cells.
- Developed a detailed 3D CAD of a high-temperature electrochemical reduction cell in Autodesk Inventor.

**Senior Design** 1/23 – Present

*Team Leader*

- Led a team of four to design an open-source insect monitoring device to track insect population and diversity.
- Oversaw project tasks and deadlines, communicated action plans during weekly meetings, ensured budget adherence, and fostered collaborative teamwork.

**Independent Study - Hydrogen Integration in Industrial Furnaces** 9/22 – 12/22

- Composed a research report on industrial steel reheat furnace mechanisms and the integration of hydrogen production pathways to reduce carbon emissions.
- Presented weekly reports to Professor David Rothamer.

## ACTIVITIES

**Insight Wisconsin** 10/19 – 12/21

*Design Lead*

- Applied lean engineering principles and problem-solving skills to complete two rounds of the prototype cycle, including prototype testing and revisions.
- Created drawings and 3D prototype design of a bike compost trailer and lens switcher and presented progress updates to corporate professionals and other club departments.

**Badger Powerlifting Team** 9/19 – 5/20

*Head Captain*

- Managed weekly practices and team competitions and led periodic seminars on exercise technique and execution.
- Worked with 30+ members to set, work towards, and accomplish their SMART goals with an 80% success rate.
- Grew club by more than 20% through individual recruitment and promotion via social media.