

ERIK ROTTINGHAUS

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WORK EXPERIENCE

GE Vernova – Consulting Services

Schenectady, New York

Grid Code Compliance Testing Intern

May 2024 – August 2024

- Developed and tested dynamic simulation models for aero-derivative gas turbines and generators, contributing to \$60,000+ in revenue. Authored detailed reports of physical characteristics and key model parameters, enhancing decision-making for customers in the design and development of future power plants
- Redesigned an Excel tool to streamline conversion of exciter software data into dynamic simulation models, ensuring compliance with current regulatory standards and expanding model versatility to accommodate various exciter types
- Designed a standardized report template to decrease report preparation time and optimized file organization to improve project retrieval efficiency by reorganizing more than 300,000 files and 2,000 completed projects

Mortenson Construction – Wind Group

Vernon, Texas

Field Engineer Intern

June 2023 – August 2023

- Performed 7 types of wind turbine foundation inspections daily to ensure all foundations complied with owners' and Mortenson's quality standards based on engineering drawings
- Communicated and coordinated work with a team of 9 engineers and 100+ craft workers to efficiently complete inspections and to facilitate an efficient workflow to meet production goals

Veterans Affairs Hospital

Minneapolis, Minnesota

Research Assistant

June 2021 – August 2021

- Analyzed and tested tensile strength of 3D printed devices to optimize 3D printing time while maintaining compliant strength requirements with applications in ear stints for Veterans

EDUCATION

Purdue University, John Martinson Honors College

West Lafayette, Indiana

Major in Mechanical Engineering with a Minor in Computer Science

Expected Graduation: May 2026

- GPA: 4.00/4.00
- Semester Honors (All Semesters); Dean's List (All Semesters)

ACTIVITIES & VOLUNTEERING

Energy and Transport Sciences Laboratory

West Lafayette, Indiana

Undergraduate Researcher

August 2023 – Present

- Supervised a team of four undergraduates to create a python automation script for data analysis of lithium-ion batteries
- Developed a Python GUI that calculates the lithium concentration inside of a lithium-ion battery using a central finite difference solution of Fickian diffusion and Neumann boundary conditions

Theta Tau Professional Engineering Fraternity

West Lafayette, Indiana

President

November 2023 – Present

- Manage an annual budget exceeding \$400,000 to successfully host professional events for more than 70 members and to efficiently operate a 9,000-square-foot housing facility for over 30 members
- Lead monthly officer meetings to promote accountability and improve communications among members
- Represent the fraternity in negotiations with university and national officials, promoting cooperation and compliance
- Transformed the fraternity's financial situation, shifting from a deficit to \$110,000 operating surplus

Rush Chairman

March 2023 – November 2023

- Recruited a record-high new member class of 26 individuals to increase energy and engagement across the organization using social media and direct outreach to increase attendance at events

Social Chairman

August 2022 – December 2023

- Organized 8+ events for 400+ attendees with a \$3,000 budget to foster engagement with other campus organizations

American Society of Mechanical Engineers

West Lafayette, Indiana

Member of Rude Goldberg Team/Sports Equipment Design Team

August 2022 – November 2023

- Designed and developed a machine to compete in the National Chain Reaction Competition using 3D printed parts
- Conceptualized, engineered, and produced a three-position adjustable cable attachment to enhance user flexibility

SKILLS & INTERESTS

- **CAD:** NX (Intermediate), Autodesk Inventor (Intermediate)
- **Programming Languages:** Java (Intermediate), Python (Intermediate), MATLAB (Intermediate), VBA (Intermediate), C (Novice)
- **Microsoft Office:** Excel (Intermediate), Word (Intermediate), PowerPoint (Novice)
- **Interests:** Wind Turbines, Solar Panels, Hydrogen Fuel, Battery Storage, Sports Analytics