

EDUCATION

Bachelor of Science, Mechanical Engineering

University of Delaware, Newark, DE (May 2024, GPA 3.20, In-Major GPA 3.23)

ASAE SENIOR DESIGN PROJECT

University of Delaware - Senior Design Course Fall 2023 - Term Project (Advanced Vehicle System for Aerospace Engineering)

Project Scope - The 2023-2024 Aero Society of Automotive Engineers (ASAE) team at the University of Delaware designed and built a complex system of vehicles, including a primary aircraft, a powered autonomous delivery aircraft (PADA), and a ground transport vehicle (GTV), for the SAE Aero Design East 2024 competition.

Role - Lead Wing Engineer

Objective - Optimizing the aircraft's wing design for improved aerodynamics and structural integrity, employing advanced materials and engineering techniques to enhance flight stability and efficiency.

PROFESSIONAL EXPERIENCE

UNIVERSITY OF DELAWARE, NEWARK, DE 2022 – Present *Fabrication Laboratory Employee - 3D Printing Specialist*

The University of Delaware owns and operates the Mechanical Engineering Design Studio, which houses the Fabrication Laboratory. A manufacturing lab for 3D Printers, Laser Cutters, Vacuum Former, and a Water Jet.

Demonstrated Expert Level Maintenance and Usage:

- Operated complex machinery and produced successful products.
- Successfully repaired five 3D Printer models.

Technology Management:

- Maintained and efficiently used three Stratasys F170s, five MakerBot Replicators, a Formech 508DT, and a WAZER water jet

Proven Leadership:

- Streamlined guidelines to improve future employees' efficiency.
- Advised colleagues on 3D Printer maintenance and future usage.
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UNIVERSITY OF DELAWARE, NEWARK, DE 2023 – Present *Lead Control Systems Teaching Assistant*

Guided students in understanding control theory and application. Developed hands-on lab exercises. Provided support in MATLAB and Simulink. Enhanced practical and theoretical knowledge.

Demonstrated Advanced Technical Proficiency:

- Expertly applied control theory in lab settings, enhancing student comprehension and practical skills.
- Led workshops on MATLAB/Simulink, improving students' analytical and problem-solving abilities.

Effective Communication and Leadership:

- Simplified complex concepts, making them accessible to a diverse student body.
- Collaborated with faculty to refine course materials, ensuring a more effective learning experience.

Proven Teaching Excellence:

- Developed innovative lab exercises, significantly boosting student engagement and learning outcomes.
- Provided tailored assistance and mentorship, contributing to improved academic performance in control systems.
- Integrated real-world examples into the curriculum, enhancing student understanding of theoretical concepts through practical application.
- Initiated a peer review system for lab reports, fostering critical thinking and constructive feedback, resulting in improved quality of submissions and increased student confidence.

WAWA, INC., MEDIA, PA 2023 - 2023 *Wawa Facilities - Equipment Intern*

Managed HVAC/R issues across store locations during peak summer demand and provided technical support for proactive equipment replacement projects and costing analysis across diverse platforms and geographies.

Demonstrated Expert Level Maintenance and Usage:

- Conducted data analysis of HVAC/R equipment vendors, optimizing maintenance strategies and minimizing operational costs.
- Collaborated with the Facilities team to implement preventive maintenance schedules, resulting in increased equipment reliability and reduced downtime.

Proven Leadership:

- Led communication efforts with internal partners to address equipment issues and efficiently manage warranty resolution.

Technology Management:

- Leveraged technical expertise to support equipment replacement projects and utilized technology tools for streamlined data organization and data-driven decision-making.
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TECHNICAL SKILLS

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| • Laboratory Experience | • Solidworks |
| • 3D Printing Expertise | • Matlab/Python |
| • Data Modeling | • CFD Analysis |
| • Data Analysis | • Finite Element Analysis |
| • SimScale | • Microsoft Office |

RELEVANT COURSEWORK

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|-----------------------|---------------------------|
| • Thermodynamics | • Rocket Propulsion |
| • Statics | • Aerodynamics |
| • Dynamics | • Fluid Mechanics |
| • Mechanics Of Solids | • Vibrations And Controls |
| • Machine Design | • Additive Manufacturing |