

## EDUCATION

### **Bachelor of Science, Mechanical Engineering**

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

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### 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.

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## 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  |