Keely Blahauvietz

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EDUCATION

Duke University Durham, NC
B.S.E Mechanical Engineering, Aerospace Certificate Aug. 2021 – May 2025
GPA: 3.782/4.0 - Dean's List: Spring 2022, 2023, 2024, Fall 2024 (Distinction)
Coursework : Aerospace Structures, Aircraft Propulsion, Aircraft Performance, Compressible Fluid Flow

EXPERIENCE

R&D Mechanical Design Engineer May – August 2024
Stratasys Intern Eden Prairie, MN
- Improved product performance by creating parts using SolidWorks, EPDM, and GDT, producing engineering drawings, contributing to BOMs, and conducting thorough thermal and structural testing
- Leveraged Arduino, SolidWorks, and additive manufactuing to develop an electromechanical control system for a filament dryer cabinet
- Designed and refined a custom sheet metal tray, evolving from 3D-printed prototypes to production-ready designs
- Investigated and resolved production issues with printer rail assemblies, collaborating with cross-functional teams to identify root causes, propose solutions, and implement design or assembly line adjustments
- Researched, designed, and prototyped a monitoring system, including rebuilding a robust CAD assembly, creating parts with SolidWorks, and testing prototypes in the lab

Quality Control Engineer/Manager May – July 2023
Engineers In Action Ngcoseni, Eswatini
- Led quality control for the construction of a 122.1-meter bridge in Ngcoseni, Eswatini, benefiting two rural communities
- Managed project timelines and ensured adherence to strict design, safety, and quality standards through collaboration with professional and student engineers

PROJECTS

Aircraft Winglet Optimization January 2025 - Present
Independent Study
- Designing aircraft winglets for reduced drag by developing MATLAB code for optimization and testing physical prototypes

Electric Miniature Aircraft January 2025 - Present
Senior Capstone Project
- Developing, fabricating, and testing electric aircraft using CAD, FEA, and CFD to analyze aerodynamics and flight efficiency

Solar Module Covering Design Aug. 2024 – Present
Independent Study
- Researched, developed, and tested innovative solar module covering materials that integrated symbols and imagery with minimal energy loss
- Presented results at Duke Energy Week's Energizing Tomorrow: Innovation Showcase

CFD Analysis of Supersonic Airfoils Spring 2023
Research Project
- Utilized CAD and CFD skills to design and optimize symmetric double wedge airfoils, enhancing aerodynamic efficiency

FEA Truss Structure Design and Optimization Fall 2023
Class Project
- Designed and optimized an aluminum truss structure for high-load applications, meeting a 30x weight support requirement
- Iteratively modified truss geometry and material selection to maximize structural efficiency and minimize weight

LEADERSHIP & ACTIVITIES

Team Captain and Student Athlete Aug. 2021 – Present
Duke Dancing Devils
- Lead and manage a 30 member D1 dance team, coordinating schedules, rehearsals, and events to ensure seamless operations and high-quality performances at Duke sports games
- Perform and spirit at Duke sports games year round for 9,300 spectators, compete in national competition
- Demonstrated leadership, collaboration, and adaptability, balancing rigorous engineering coursework with athletic responsibilities

Duke Aero Aug. 2021 – 2023
Structures Team Member
- Designed and fabricated the nose cone for the team rocket using CAD and lathe machining
- Learned about the aerospace industry, different components of rockets, and gained experience working on a design team

SKILLS & INTERESTS

Design: 3D parametric modeling, SolidWorks, FEA, CFD, Fusion 360, GD&T, 3D printing, CNC milling, Lathe, EPDM, Onshape
Programming: MATLAB, Java, Arduino, LaTex
Soft Skills: Multitasking, Collaboration, Problem-solving, Creativity, Self-motivation, Adaptability