

KEELY BLAHAUVIETZ
Charlotte, NC 28203
952.818.5086
keelyblahauvietz@gmail.com

CAREER OBJECTIVE: Product Development Engineer | Mechanical Design Engineer | Mechanical Engineer | Aerospace R&D Engineer

SUMMARY OF QUALIFICATIONS

Mechanical Engineer with hands-on experience in product development, mechanical design, prototyping, testing, and engineering analysis. Applied SolidWorks, CAD modeling, thermodynamics, fluid mechanics, and engineering principles to develop, evaluate, and improve mechanical and electromechanical systems. Recognized for strong critical thinking, troubleshooting complex technical challenges, applying AI in the workplace, and rapidly mastering new technologies. Known for taking initiative, exceeding expectations, and collaborating effectively with cross-functional teams to deliver high-quality engineering solutions.

EDUCATION

B.S.E, *Mechanical Engineering*, Duke University, Durham, NC, 2025
Certificate in Aerospace Engineering May 2025
GPA 3.8, Dean's List- 2022, 2023, 2024, 2025

CERTIFICATES + TRAINING

Engineer-in-Training (EIT), Fundamentals of Engineering (FE) Exam Passed, 2025

TECHNICAL SKILLS

Programming: MATLAB, Python, C++, Java
Applications: SolidWorks, Onshape, Excel, Word, PowerPoint, LaTeX
Design: 3D CAD, FEA, CFD, GD&T, 3D Printing, CNC Milling, Laser Cutting, Lathe

PROFESSIONAL EXPERIENCE

Engineering Project Manager, Hoffman Hydronics, Charlotte, NC, June 2025-Present

- Applied engineering analysis and flow calculations to support equipment selection for a \$13M power generation project, recommending pump solutions that met system performance requirements while improving energy efficiency and lowering costs through value-engineering initiatives.
- Performed engineering calculations and equipment sizing for commercial and industrial HVAC systems, supporting mechanical contractors and consulting engineers through system design and equipment selection.
- Generated competitive product analysis to evaluate equipment options and support engineering recommendations.
- Applied thermodynamics, heat transfer, and fluid mechanics principles to select pumps, boilers, heat exchangers, and auxiliary equipment.
- Developed an AI-powered spreadsheet to track projects, key metrics, bid estimates, and orders while streamlining workflows and creating more efficient business processes.
- Leveraged AI tools to improve engineering productivity and automate routine tasks.

- Prepared technical reports, specifications, and submittal packages for engineered systems, ensuring compliance with codes and project requirements.
- Served as Project Engineer supporting multiple commercial and industrial projects, collaborating with consulting engineers, contractors, building owners, and internal teams. Managed project scope, schedules, budgets, contracts, product selection, cross-functional collaboration, and successful completion of project milestones and deliverables.

R&D Mechanical Design Engineer Intern, Stratasys, Eden Prairie, MN, May 2024 - August 2024

- Developed and tested working prototypes of a new electromechanical PID control system for a 3D filament dryer cabinet, integrating temperature and humidity sensors, C++ programming, Arduino hardware, and an LCD display to improve printing performance.
- Designed and refined a custom sheet metal tray to eliminate water leakage and address a safety concern, progressing from 3D-printed prototypes to a production-ready design.
- Improved product reliability, manufacturability, and user experience by creating components in SolidWorks, maintaining CAD models within EPDM, applying GD&T principles, producing engineering drawings, contributing to Bills of Materials (BOMs), and conducting thermal and structural testing.
- Researched, designed, and prototyped a monitoring system to track equipment performance, alignment, and temperature, rebuilding a complex CAD assembly, creating components in SolidWorks, and validating prototypes through laboratory testing.

Quality Control Engineer - Internship, Engineers In Action company, Eswatini, Africa, May - July 2023

- Led quality control activities during construction of a 122.1-meter bridge, ensuring compliance with engineering specifications, safety requirements, and quality standards while supporting infrastructure improvements for two rural communities.
- Conducted structural inspections, reviewed engineering drawings, verified dimensions, performed materials testing, and documented construction progress through photographic inspections to ensure adherence to design specifications.
- Collaborated with professional and student engineers to monitor construction progress, support surveying activities, and verify compliance with project requirements and construction standards.
- Managed competing priorities in a fast-paced, resource-constrained environment, supporting project schedules, quality objectives, and on-site engineering operations.

Relevant Coursework: Mechanical Design, Mechanical Systems Design, Aerospace Structures, Aircraft Propulsion, Aircraft Performance, Heat and Mass Transfer, Thermodynamics, Fluid Mechanics, Compressible Fluid Flow, Control Systems, Mechanical Analysis for Design, Mechanics of Solids, Dynamics, Structures and Properties of Solids, Electrical Fundamentals of Mechatronics, Data Structures & Algorithms, Engineering Innovation, Computational Methods in Engineering, Multivariable Calculus, Differential Equations, Matrices and Vectors.

RELOCATION: Willing to Relocate Nationwide | Seeking Onsite or Hybrid Opportunities