

Keith Boyle

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA

Bachelor of Science in Mechanical Engineering, May 2025

Overall GPA: 3.3/4.0

WORK EXPERIENCE

Mechanical Engineering Intern, KTC Instruments, Phoenixville, PA, Summer 2024-Present

- Modeled machine components in 3D along with their 2D drawings to build library of components in SolidWorks
- Built assemblies of company's products in SolidWorks to support customer issues
- Developed concepts for new accessories, which are in consideration for production, to enhance user experience
- Standard Operating Procedures for product assemblies to streamline manufacturing

PROJECTS

Innovative Bottle Cleaner, Product Design, Fall 2024

- Designed a device to clean water bottles to promote human health and sustainability using reusable bottles
- Conducted an in-depth user study to empathize with potential customers and their needs
- Tested and dissected a competitor product to understand areas of improvement for our design
- Utilized various decision-making guides including Pugh Charts and Value Opportunity Analysis to make design choices

Calories Expenditure Regression Model, Numerical Methods, Spring 2024

- Developed a polynomial regression model in MATLAB to estimate calories burned on variety of variables
- Implemented numerical optimization techniques to refine model accuracy and validate predictions against real-world data

Astronaut's Coat Rack, 3-D Solid Mechanics, Fall 2022

- Designed a coat rack with mass and support constraints to sustain a load in space
- Created a design to carry 3 times required load with an acrylic structure, weighing less than 10 grams

Battleship Game, Principle of Computing, Spring 2023

- Programmed Battleship in Python complete with graphics and mouse controls

RELEVANT COURSES

Product Design Mechanical Systems Experimentation Dynamic Systems & Controls Heat Transfer
Environmental Systems on a Changing Planet Mechanical Engineering Project Management

LEADERSHIP

Director of Scholarship, Alpha Sigma Phi Fraternity, Fall 2022-Spring 2023

- Fostered member's study skills and held study hours to support academic growth.

ATHLETICS

- **Men's Varsity Football, Carnegie Mellon University**, Pittsburgh, PA, Fall 2021-Present

SKILLS

Software: MATLAB, SolidWorks, ANSYS, Python, Arduino

Machines: CNC Machining, Manual Machining, Lathe, 3-D Printers, Laser Cutter

ACTIVITIES

Special Olympics Volunteering – Spring 2022 - Present

Alpha Sigma Phi Fraternity