

Justin Ewan

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Education

University of Pennsylvania

Bachelor of Science in Engineering: Mechanical Engineering and Applied Mechanics

GPA: 3.44/4.00

Relevant Classes: Intro to Thermal-Fluids Engineering, Intro to Mechanical Design, Statics and Strength of Materials, Linear Algebra with Applications to Engineering and AI, Introduction to Engineering Computing

Philadelphia, PA

August 2024 - Present

Skills and Interests

Technical: SolidWorks CAD Design Associate, 3D Printing, Laser-Cutting, Raspberry Pi Pico, Microsoft Excel, Microsoft Word

Programming: Python, Java, Arduino IDE, LaTeX, MATLAB

Language: English (Native), Spanish (intermediate, speak, write, read)

Interests: Fashion (Design/Styling Chair of Penn Fashion Collective), Fitness (Basketball, Football, Snowboarding), Photography

Projects

Suspension Bridge | Mechanical Engineering Laboratory I C

- Fabricated a 20 x 4-inch working suspension bridge through SolidWorks to achieve a maximal load of 2.5 kg on the inner cables alongside two others. Tested suspension bridge through buckling and FEA analysis to optimize the sag height of the inner cables.

Helicopter | Introduction to Scientific Computing

- Coded and developed a Python script to manage a Raspberry Pi Pico circuit, enabling a helicopter to detect and maintain a specified angle of flight that somebody could change through pressing a button on the circuit.

Mechanical Toy | Introduction to Mechanical Design

- Modeled a gearbox and outer design of a wind-up duck in SolidWorks through precise caliper measurements, creating a functional prototype comprised of over 20 unique parts.

Lighthouse | Introduction to Mechanics Design

- Constructed a 4 x 6-inch lighthouse using SolidWorks to re-create the University of Pennsylvania's historic boathouse while using 0.25-inch MDF and three unique wood joinery techniques to develop a clean, interlocking final product.

Experience

St Andrew's School

Resident Advisor

Middletown, DE

August 2023 - May 2024

- Mentored and advised second-year students through weekly 1-hour one-on-one meetings and daily conversations about their lives at school. Led monthly dorm-wide activities to initiate and grow the bond between the students.

Tutor

August 2022 - May 2024

- Tutored high school students in Algebra, Geometry, AB Calculus, and Physics I in weekly one-on-one meetings at St Andrew's School.

Leadership and Activities

A. James Clark Scholars Program

Member

Philadelphia, PA

September 2024 - Present

- Secured a highly competitive spot as 1 of 40 engineers throughout the university based on excellence in education, research, and community engagement.
- Engaged in entrepreneurship workshops and two university-level entrepreneurship courses to develop key business skills.
- Gained specialized mentorship through accredited professors within the university and led innovators within their respective industry.

National Society for Black Engineers (NSBE)

Member

Philadelphia, PA

September 2024 - Present

- Spearheaded STEM outreach initiatives, such as visiting local schools in the Philadelphia area to discuss engineering, to advance NSBE's mission of increasing the number of culturally diverse engineers in the workplace.
- Engaged in skill-building activities, like technical interview prep and networking events, to converse with the black engineering community and build hard skills for the workplace.

Carnegie Mellon University | Summer Academy for Maths and Sciences (SAMS)

Student

Pittsburgh, PA

June 2023 - August

2023

- Selected as 1 of 75 STEM scholars nationally for a STEM enrichment program, fostering academic excellence by learning key topics such as physics, chemistry, and game design, under accredited professors at Carnegie Mellon University.