**Mary Smith**

New Paltz, NY | (845) 555-1234 | smithm@newpaltz.edu

**EDUCATION**

**Bachelor of Science in Mechanical Engineering**  Expected May 2025

State University of New York at New Paltz – New Paltz, NY

GPA 3.87/4.0 | Dean’s List 7 of 8 semesters

**TECHNICAL SKILLS**

SolidWorks, MATLAB, ANSYS, EES, Microsoft Office, Google Workspace

**PROJECTS**

**Refrigeration Cycle for Tropical Country** – SUNY New Paltz  Spring2024

* Developed various refrigeration systems, including simple vapor compression, cascade, and two-stage cycles, for a food storage refrigerator tailored for Peru. Utilized the environmentally friendly refrigerant R290 (Propane) to ensure sustainability and efficiency.
* Determined the required cooling load by analyzing the heat capacities of foods commonly found in Peru, ensuring accurate and effective refrigeration performance.
* Calculated thermodynamic property values using CoolProp add-ins for MATLAB, EES, and Excel, with results validated through detailed hand calculations to ensure accuracy and reliability.
* Identified the optimal refrigeration cycle design by performing a thorough analysis of cost, cooling power, and efficiency, ensuring the best balance between performance and economic viability.

**Reverse Engineered a Rubber Band Powered Car** – SUNY New Paltz Fall 2023

* Collaborated on the construction and design of a 3D-printed rubber band-powered car, building on an existing model to innovate and refine its performance.
* Utilized SolidWorks to meticulously model the chassis, wheels, drivetrain, and drive shaft for 3D printing, ensuring precision and optimal performance in the final design.
* Assembled and tested the cars to measure maximum distance traveled and velocity, while also focusing on minimizing weight and cost for optimal performance and efficiency.
* Achieved 1st place out of 12 teams in the final performance competition, excelling in both distance traveled and cost-efficiency.

**Truss Bridge, Statics** – SUNY New Paltz Fall 2022

* Applied expertise in statics and truss bridge design to develop and construct a bridge with maximum strength and durability.
* Designed the bridge using SolidWorks, creating a detailed CAD model that was then 3D printed for precise and effective construction.
* Tested the 3D-printed bridge using a press machine to determine its maximum load capacity, ensuring structural integrity and performance under stress.
* Employed MATLAB, EES, Excel, and hand calculations to determine the internal forces of each bridge member under applied loads, utilizing the method of joints for precise analysis.

**RELATED EXPERIENCE**

**Technical Intern** June 2024 – August 2024

**PSEG Long Island** – Hicksville, NY

* Worked in the Substation Maintenance and Relay Protection group, focusing on the upkeep and safety of electrical substations and the implementation of protective relay systems.
* Traveled to substations alongside first-level supervisors to observe worker management and actively participated in the assessment and evaluation of machinery at each location.
* Edited and developed documents for the Substation Maintenance Training Academy Manual, contributing to the creation of comprehensive training resources and guidelines.

**ASSOCIATIONS**

**Active Member:** Women in Science and Engineering, American Society for Mechanical Engineers, Campus Representative for Hippies for Hope