

Shane Callahan

845-417-7007 | callahas3@newpaltz.edu | 56 Morey Hill Rd, Kingston NY 12401

Motivated, self-directed Engineer with exceptional verbal and written communication skills. Invests passion and commitment to achieve corporate vision. Applies analytic methodology and latest technology to lead change and tackle new projects and ideas.

Education

State University of New York at New Paltz

Bachelors of Science in Mechanical Engineering

May 2022

Ulster County Community College

Associates in Science

May 2020

Relevant Coursework

Design with Additive Manufacturing, Design with Reverse Engineering, Circuit Analysis, Kinematics of Machines, Mechanics of Materials, Design of Measurement Instrumentation, Thermo-System Design, Fluid Mechanics, Heat Transfer, Finite Element Analysis, System Dynamics, Advanced CAD

Technological Skills

SolidWorks, Autodesk Inventor, MATLAB, C++, Engineering Equation Software, ANSYS, LISA, Microsoft Office, Google Docs, PC and MAC Proficiency

Work Experience

Contractor

Highland Services LLC- Stone Ridge, NY

August 2018- present

- Completed tear-down of existing structures and prepared for new construction.
- Assessed engineering documentation to determine order construction operations.
- Measured and cut materials to verify conformance to job specifications.
- Designed electrical circuits for kitchen and bathroom renovations.
- Designed plumbing fixtures for sinks and showers.

Supervisor/Monitor

SUNY New Paltz AWC

July 2021-May 2022

- Monitored patrons whilst working out to ensure safe use of all equipment
- Supervised other monitors to ensure proper due diligence as well help them if needed
- Opened and closed the AWC, both checking all exits and entrances as well as ensuring all equipment was put away correctly.

Projects

Stirling Engine

SUNY New Paltz

August 2021- May 2022

- Modeled heat transfer throughout entire system for maximum efficiency
- Used SolidWorks to create preliminary designs for the piston and cylinder
- Manufactured test stand while gaining knowledge on the skills of metal and plastic work
- Analyzed components in ANSYS for thermal properties of design
- Established criteria for each milestone within product roadmap as means to measure developmental progress

References upon request

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FEA Project 1: Frames and Trusses

SUNY New Paltz

September 2021

- Established the applications of the tower being installed such as forces from snow and wind.
- Developed and refined tower design and material to better suit its environment.
- Developed 3D and FEA models for analysis.

FEA Project 2: Heat Transfer

SUNY New Paltz

October 2021

- Modeled 1D and 2D steady state Heat Transfer within a fin
- 3D Transient analysis of a steel cube being quenched
- Designed and analyzed FEA models of three heat sinks

FEA Project 3: Solid Mechanics

SUNY New Paltz

November 2021

- Investigated the benefits and limitations of using 2D models for non uniform 3D parts
- Developed 2D and 3D FDM printed test samples and analyzed them within ANSYS
- Analyzed the difference between different print orientations and mesh sizes

Diesel Cycle

SUNY New Paltz

March 2021

- Designed a diesel cycle utilizing Engineering Equation Solver
- Experimented with differing working fluids, both ideal and non-ideal
- Analyzed efficiency and power output based on varying compression ratios
- Developed professional P-v and T-s diagrams

Brayton Cycle

SUNY New Paltz

April 2021

- Designed a gas turbine cycle utilizing Engineering Equation Solver
- Experimented with differing isentropic efficiencies
- Ensured the working fluid remained a gas throughout the cycle
- Analyzed altitudes effect on efficiency and power output
- Analyzed the nozzle pressure ratio effect on efficiency and power output

First Robotics

Ulster County New Visions: Advanced robotics and engineering

Spring 2018

- deconstructed previous years robot for parts
- Measured specific locations and parameters for optimal part configuration
- Printed and machined specified parts to exact dimensional requirements