Shane Meyer

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Education

Northeastern University, Boston, MA, Bachelor of Science in Mechanical Engineering — May 2024

Courses: ME Design, Capstone I-II, System Analysis & Control, Thermal System Analysis & Design, Fluid Mechanics

Activities: NU SEDS: NASA Big Idea project - Mechanical Lead (2022), American Society of Mechanical Engineers (ASME)

Capstone Project - Oxygen Tubing Storage and Management System — January – May 2024

- Part of team that collaborated daily to create oxygen tubing storage system that solved pain points in hospitals
- Led analysis of materials using a stress-lifecycle approach to calculate safety factors for ratchet and pawl system

Work Experience

Coravin, Bedford, MA — July – December 2023

Mechanical Engineer Co-op (Consumer Products – Wine Preservation System)

- Designed and 3D printed parts using Creo to create new features in products, resulting in a $3.7K cost savings per purchase order of flagship product materials while reducing part count by 67%
- Analyzed data using MATLAB & Excel to convert test data into quantifiable results and insights for decision making
- Incorporated testing data and research when collaborating with marketing to inform new product requirements
- Tested materials and designs using compression & tension tests on an Instron, reducing costs by 30% per unit
- Created test and assembly fixtures using Creo and 3D printing, resulting in increased accuracy of prototype assembly
- Fabricated testing rigs that recreated issues seen in the field, saving $30,000+ on travel, collaborated with outside motor vendor to design a solution that could be reworked into current designs
- Designed, executed protocol test for reliability & needle puncture force, identified regulator issues & improved design
- Conducted validations, identified and resolved issues resulting in successful validations with all standards being met

SharkNinja, Needham, MA — June-December 2022

Mechanical Engineer Co-op, Shark Advanced Development (Vacuum R&D)

- Led the ideation and creation of multi-team vacuum testing rig, setting clear scope and deliverables, meeting timeline
- Collaborated with marketing to identify consumer pain points, designed new vacuum technologies for upcoming products and created new designs using SolidWorks and Creo, resulting in better functionality & user experience
- Created and rolled out clear, reliable, and reproducible test method and rig, now deployed for all engineering testing, in addition delivered 50% time saving, and eliminated less reliable methodologies and underlying costs
- Designed and fabricated POC (proof-of-concept) prototypes using SolidWorks and hand fabrication with power tools
- Designed and executed test procedures for new vacuums to gather data, resulted in new design recommendations

Mobile Robotic Control, Boston, MA — May-June 2022

Research Assistant, reported to Head of Northeastern Mechatronics

- Created program to calculate error and applied the error value to motors, resulting in streamlined motion of robot with the angular velocities being the same 53.5% of time, an increase of 80%
- Wrote code in Arduino to analyze motor output, calculating angular displacement, angular velocity, revolutions

BorgWarner, Ithaca, NY — July-December 2021

VCT (Variable-Cam-Timing) Product Engineering Co-op

- Designed and tested various prototype features with a tolerance of 50 microns using Keyence machines, micrometers, drop gauges, considering implications to cost, manufacturing, and performance
- Analyzed performance and fit of individual components, recommendation that was incorporated in final part design
- Tested prototypes using flow tester, force press and sectioned parts using cut off wheel, sanded cut pieces
- Worked with tool room to create and assemble max and min limit prototypes as well as fixtures for testing using SolidWorks, hand tools, gauge blocks, Dremel and CMM

Skills/Interests

Applications: SolidWorks (CSWA), Creo, Ansys, AutoCAD, Arduino, MATLAB, Windchill, Teamcenter PLM, Excel

Hard Skills: Proficient with 3D printing, hand & power tools, Dremel, wood working, reworking prototypes, soldering

Activities: Varsity volleyball captain in high school, basketball team member, played both recreationally throughout college