

Joseph M. Wilson

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Education

MS Thesis Mechanical Engineering

University of Colorado Boulder

Anticipated Graduation Date: May 2021

BS Mechanical Engineering – Energy Engineering Minor

University of Colorado Boulder

Graduation Date: May 2020

Experience

Engineering Intern, Arcosa Lightweight

June 2019 – August 2019

- Implemented the principles of Lean Six Sigma to organize storehouse for consumables and materials.
- Learned and complied with MSHA safety standards at all times to ensure a safe work environment.
- Communicated plan, progress, and results to all supervisors with a vested interest in project outcome.
- Created a presentation to communicate results of project to supervisors, managers, and executives.

Student Assistant, Energy Engineering Program

January 2019 – May 2020

- Provided information about the Energy Engineering Minor Program to interested students.
- Completed administrative work as necessary determined by the Program owner.
- Conducted surveys to tailor events to interest of students enrolled in the Energy Engineering Program.

Calibration and Repair Technician, U.S. Marine Corps

July 2011 – July 2016

- Delegated workload and supervised tasks to ensure work was done in a timely manner with high quality.
 - Served as Training Manager for 1.5 years, overseeing all training of a total of 43 individuals.
 - Completed calibration of new assets and trained colleagues to operate assets to ensure proper use.
 - Utilized knowledge of operation of 600 calibration standards to properly calibrate test equipment.
 - Completed quality assurance checks of over 150 assets.
 - Utilized troubleshooting and electronic schematic expertise to repair test equipment when necessary.
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Projects

CFD Analysis of Negative Pressure Isolation Ward Housing COVID-19 Patients (Thesis Project)

Student Lead

- Constructed CAD model of negative pressure isolation ward utilizing OnShape.
- Performed CFD simulation on CAD model using HVAC values, infiltration rates, and a HEPA filter using SimScale.
- Analyzed CFD Simulation results to evaluate air velocity, pressure, and particle tracing of virus through the ward.

Electrically Actuated Grippers for client Mikron Corporation

Design Team Member and Project Manager

- Coordinated scheduling of the team and ran meetings with team, faculty director, and client.
- Participated in development while being accountable for the overall result of the project.
- Developed manufacturing grippers that are electrically actuated instead of pneumatically actuated.
- Ensured that market development of devices would be comparable in cost to current market grippers.
- Met specifications required by client for actuation speed, force, and distance.

Solar District Cup National Competition – 3rd Place Winner

Team Member

- Design a solar panel and battery storage system for New Mexico State University Campus.
 - Developed Python script that would evaluate shading losses for any 2D, horizontal solar array.
 - Evaluated the impact to the distribution grid that the solar and storage installations would add.
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Highlighted Skills

- CFD
- SolidWorks
- PTC Creo
- Python
- MATLAB
- C++
- Project Management
- Lean Six Sigma
- Quality Control