

Qualifications Summary

Highly analytical and innovative individual with related education, practicum and expertise to contribute to long range operational objectives in a **Mechanical Engineer** role.

Mechanical Engineering

- ◆ Well-developed ability to diagnose and resolve engineering issues, including supporting installation, testing, and troubleshooting of mechanical equipment.
- ◆ Robust understanding and working knowledge of plastic/rubber/metal part design and manufacture using processes, such as injection molding.

Manufacturing Engineering

- ◆ Solid understanding and awareness of improving manufacturing processes, engineering experiments and creating technical engineering drawings on software.
- ◆ Experience in manufacturing parts, assemblies and creating mounting fixtures. Strong engineering skills in product development/manufacturing environment.

Design Engineering

- ◆ Skilled in design techniques, tools, and principals involved in the production of precision technical plans, blueprints, drawings, and models.
- ◆ Demonstrated expertise in 3D Modeling along with the ability to use Autodesk software packages for mechanical/structural design and detailing.

Key Strengths

- ◆ Familiar with basic engineering principles, process improvements, test instrumentation and best troubleshooting practices.
- ◆ Critical thinker who works well under pressure and time constraints. Sharp and adaptive; able to quickly learn and apply new concepts, techniques, and technologies.

Technical Proficiencies

- Software:** SolidWorks(CSWA), Abaqus FEA, AutoCAD, FreeCAD, technical drawing/GD&T, Python, C++, Arduino, MATLAB/Octave, EES
- Others:** Additive Technology, Mill and Lathe Operation, Laser Cutting, Larger Scale Electronics, Soldering, Rapid Prototyping and Small Batch Production, Project Management, Technical Writing and Report Writing, Component and Systems Engineering, Software and Hardware Integration, Mechatronics and Robotics.

Education

Bachelor of Science in Mechanical Engineering

University of Colorado Boulder, 5/2021

Associates of Science

Community College of Aurora, 5/2018

Professional Experience

Coding with Kids, Redmond, WA Teacher

1/2020 – 11/2020

Taught coding techniques to over 50 students from 2nd Grade to 5th Grade locally and remotely, including teaching Python, MIT's Scratch, and Minecraft modding among other languages and skills.

- Successfully learned numerous new programming languages quite rapidly.

Fair Farm Colorado, Longmont, CO
Engineering Intern

5/2019 – 5/2020

Designed from the ground up feed, water, heating, lighting, Wi-Fi, and egg collection solutions for a medium-sized laying farm.

- Efficiently fabricated custom feed, water, and Wi-Fi, power, and egg collection solutions in an off-grid environment.

The University of Colorado, Boulder, Boulder, CO
Teacher's Assistant, Computer-Aided Design and Fabrication

8/2018 – 12/2019

Educated approximately 40 students regarding CAD, engineering drawing (including GD&T) and hand dimensioning. Facilitated and instructed student teams in fabricating the final class project from student-created parts.

- Coached and mentored students to complete the CSWA/CSWP certification as well as taught fabrication techniques on both lathe and mill.

Community College of Aurora, Aurora, CO
Engineering Lab Assistant

8/2017 – 7/2018

Displayed a high level of technical competence in teaching workshops featuring circuits, electronics, Arduino programming, soldering, and 3D printing. Provided training to students regarding techniques competing in both COSGC Robotics Challenge and Rocksat-C.

- Educated students regarding shop and coding techniques to develop robots for the Colorado Space Grant Consortium Robotics Challenge.

Academic Projects

University of Colorado Boulder Engineering for Social Innovation

8/2020 – 5/2021

Acted as Project Manager for a startup focusing on assisting the homeless through technology. Drove innovation through partnerships with suppliers and vendors to reduce costs drastically. Designed a mechanical device that incorporated vacuum molded plastic, welded steel, and soft goods components successfully. Created a startup that competed successfully in the CU Boulder New Venture Challenge 14 entrepreneurial program and competition. Partnered with multiple not-for-profits in the Denver area to analyze requirements as potential clients.

University of Colorado Boulder Summer Intensive Program

5/2020 – 9/2020

Designed a desktop injection molding device by collaborating with Western Colorado University, including delivering design for a device capable of exceeding design requirements while remaining within budget. Created analyses and documentation that allowed the project to be reviewed and fabricated offsite without further need for input.

Rocksat-X 2018, Community College of Aurora

8/2017 – 9/2018

Made substantial contributions in Colorado Space Grant Consortium (COSGC) suborbital experimental payload launch. Conducted experiment using triboelectrically charged material to collect orbital debris. Performed testing involving vacuum chambers, temperature variance, and vibration tables. Demonstrated technical skills in designing and fabricating electronics enclosure to withstand 25+ sustained G forces.

Robotics Challenge, Community College of Aurora

1/2017 – 4/2017

Played a key role in COSGC autonomous robot design and building challenge in a Mars-like environment, including designing and fabricated robot components using additive technologies. Coded custom pathfinding and beacon locating software for an autonomous robot. Integrated Arduino Mega with shields, boards, sensors, and motors with custom power and data buses.