Dawson Golden-Collum

Beaverton, OR • (907) 341-9755 • dawsonlgc@gmail.com
[LinkedIn] • [Portfolio or GitHub]

Professional Summary

Engineer-in-Training (EIT) with a B.S. in Mechanical Engineering and a record of solving complex problems through hands-on design, prototyping, and field execution. Contributed directly to a $140M+ infrastructure project, independently resolving critical issues that kept the build on schedule. Currently developing a proprietary off-grid mechanical system from concept to finished product. I don't just design systems—I build them, test them, and push them until they work. Ready to step into a role where I can deliver real engineering impact from day one.

Core Competencies

- Mechanical Design (SolidWorks, AutoCAD)
- Hands-On Prototyping and Precision Assembly
- Field Engineering and Issue Resolution
- CFD (OpenFOAM – Entry Level), Thermofluids
- Arduino, Stepper Motor Control, FDM 3D Printing
- Technical Writing and Engineering Documentation
- EIT Certified – Oregon
- Measurement and Inspection Tools (Calipers, Micrometers, Torque Wrenches)

Engineering Experience

Independent Mechanical Engineer
Jan 2025 – Present | Beaverton, OR

- Designing and prototyping a proprietary mechanical energy system for off-grid use
- Built and tested three distinct design iterations, increasing power output by approx. 250%
- Developed custom fixtures and procedures to simulate real-world fluid behavior
- Entire project self-led; responsibilities include CAD modeling, mechanical fabrication, and iterative testing

Field Engineer — Mortenson
July 2024 – Jan 2025 | Beaverton, OR

- Supported mechanical and electrical QA across a $140M+ commercial project
- Identified and resolved 30+ installation issues, helping avoid delays and rework
- Independently conducted site inspections and generated field reports with photographic documentation
- Gained direct experience with on-site engineering decisions, equipment coordination, and compliance verification
- Consistently praised by supervisors for autonomy, problem-solving, and execution under pressure

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Education and Certifications

Bachelor of Science in Mechanical Engineering
Oregon Institute of Technology, 2024

- Engineer-in-Training (EIT) – Oregon
- Relevant Coursework: Thermodynamics, Fluid Mechanics, System Dynamics, Controls, CAD
- Key Project: Cable-Driven 3D Positioning Robot (Course Project)
    - Designed a 3-axis motion system with simple cable and stepper control
    - Achieved <1mm spatial repeatability under load
    - Led debugging and motion control tuning for reliable path execution

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Key Achievements

- Delivered functional, tested, mechanical prototypes independently with zero oversight
- Contributed to the success of a $140M+ build by resolving high-impact field issues early
- Recognized for initiative, dependability, and ability to move from concept to functioning hardware

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Technical Toolkit

CAD & Simulation: SolidWorks, AutoCAD, basic OpenFOAM
Programming & Analysis: MATLAB, Arduino, basic Python scripting
Fabrication: FDM 3D Printing, mechanical assembly, stepper motor systems
Tools & Equipment: Shop tools, power tools, calipers, micrometers, inspection instruments
Documentation: Engineering reports, field documentation, quality assurance records