

# Dawson Golden-Collum

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Portfolio: <https://dawsongc.github.io/dawson-s-portfolio/>

YouTube: <https://www.youtube.com/@dawsongc/featured>

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## 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.

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## 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)
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## 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