Gavin Reed

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EDUCATION

University of Colorado Boulder – College of Engineering and Applied Science Expected May 2028
Bachelor of Science in Mechanical Engineering

- ***GPA:*** 3.84/4.0
- ***Relevant Courses:*** Fluid Mechanics, Thermodynamics, Mechanics of Solids, Dynamics, System Dynamics, Component Design, Computational Methods, Manufacturing Processes and Systems

ENGINEERING EXPERIENCE

CU-Boulder Racing Team February 2025 to Present
Aerodynamics and Chassis Engineer (Formula SAE) *Boulder, CO*

- Designed and refined the rear wing, using OnShape CAD, SimScale CFD, and physical flow-visualization testing to compare designs and guide aerodynamic changes
- Performed chassis torsional-stiffness testing to validate FEA and developed MATLAB scripts to clean suspension-potentiometer data for vehicle performance analysis

Siemens May 2026 to August 2026
Automation & Controls Intern *Lakewood, CO*

- Programmed and commissioned 50+ Siemens controllers, implementing control sequences and integrating sensor and actuator I/O points across networked automation systems
- Troubleshot and tested live mechanical systems, including air handlers and chillers, across 5 sites by tracing field wiring, validating sensor and actuator I/O, and isolating controller and communication faults

AsterionDB June 2025 to August 2025
Test & Systems Integration Intern *Remote*

- Deployed a secure Oracle Cloud demo system using Autonomous Database, compute instances, SSL load balancing, and file-management tools for 100+ part documents
- Tested and debugged end-to-end data flow across SQL, cloud infrastructure, the React front end, and a Python/OpenCV detection pipeline, isolating 10+ integration failures and verifying system behavior

Structures, Inc June 2023 to July 2023
Engineering Intern *Englewood, CO*

- Supported 3 active bridge/dam sites by interpreting drawings, completing quantity takeoffs for 100+ ft structures, and preparing estimates for $1–5M projects

PROJECTS

Turbofan Design & Fan Blade Structural Analysis June 2026 to July 2026

- Designed a full turbofan assembly in Siemens NX based on published CFM56-7B architecture, modeling fan, compressor, combustor, turbine, shaft, casing, and exhaust sections
- Performed ANSYS FEA on the fan blade across 1,000–5,500 RPM, comparing three materials and visualizing stress, displacement, and safety-factor trends in Tableau

Wobbler Steam Engine April 2025 to May 2025

- Designed and manufactured a 15-part pneumatic wobbler engine in SolidWorks, creating tolerance-controlled engineering drawings, BOM, and full assembly documentation while machining components using a mill and lathe
- Tested and tuned clearances, sealing surfaces, and component alignment through iterative testing, achieving consistent engine operation at 20 psi

Reverse-Engineered Drone April 2025 to May 2025

- Delivered a fully documented 9-part SolidWorks assembly from caliper measurements, including component drawings, exploded view, and BOM
- Maintained ±0.20 mm critical-fit tolerances across measured interfaces to ensure consistency between modeled components and final assembly

LEADERSHIP

American Society of Mechanical Engineers September 2025 to Present
Industry Outreach Lead *Boulder, CO*

- Lead industry outreach for ASME by organizing department-wide events, coordinating employer engagement, and managing member communications to expand career and professional development opportunities for 100+ CU students

SKILLS

Technical Skills: CAD (SolidWorks, Siemens NX, Onshape), Simulation (ANSYS, SimScale), Programming/Data (MATLAB, Python, SQL), Controls (Sensors/DAQ, Arduino), Manufacturing (Mill, Lathe, 3D Printing)