

Cole Rutkowski

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PERSONAL PROFILE

- Junior year mechanical engineering student
- Interest in modeling and machining, renewable energy, and safety systems

EDUCATION

BS in Mechanical Engineering, University of Colorado Boulder

Graduation Date: May 2026

- Spanish Minor GPA: 3.44
- Extracurricular Courses: Welding, Machine Shop Safety and Technology, Operation of Universal Test Machines

SKILLS

Fabrication: Lathes, Mills, Waterjet, MIG and TIG welding, 3D printing, Woodworking tools

Measurement Operations: Keyence CMM, Ohaus Balance for Specific Gravity, Universal Testing Machine, Mark-10 Torque Gauge, basic hand tools

Software: SolidWorks, C++, HTML, CSS, Matlab, Qualtrax, Microsoft Office

ENGINEERING EXPERIENCE

Personal Project

August 2023

Crack Simulation Training Machine

- Independently designed and constructed training machine to simulate climbing in Yosemite and Indian Creek
- Researched crack systems, consulted local climbers to accurately mimic rock features
- Outsourced materials and tools from climbing and construction industry connections
- Custom-machined bolts to limit constriction and compression

Personal Project

September 2023 - Present

Making and Testing Climbing Nuts, Hexes, and Cams (see portfolio website)

- Machined custom components with waterjet, lathe, and mill from Aluminum 6061-T6
- Researched mountaineer, homemade, and professionally-produced gear made between 1970 and present
- Studied and modeled old gear, hand-sketched and CAD modeled custom variations
- Tested aircraft-cable extensions in tension machines
- Fall tested new gear on real rock with increasingly large falls (30ft max)

WORK EXPERIENCE

Quality Control Intern, Trelleborg Sealing Solutions Denver

June 2024 - August 2024

- Managed and maintained quality control documentation, including standard operating procedures, work instructions, and quality procedures.
- Researched, developed, and documented procedures for measurement processes and quality control procedures, including torque, force, hardness, specific gravity, and tensile strength testing procedures.

LEADERSHIP EXPERIENCE

Mountain Guiding and Safety

September 2022 - Present

- Teaching safety and mountain skills to novice climbers through the Alpine Club.
- Guiding new climbers on routes in multi pitch and alpine terrain.
- Instructing on safe anchors, rope systems, planning, preparation, and logistics.

STUDENT AFFILIATIONS

Triathlon Club, Tango Club, Chess Club

August 2022 - Present

Alpine Club

August 2021 - Present

INTERESTS

Distance running (professional marathon team, 80+ miles per week, 14:30 5k and 4:15 mile)

Trad Climbing and Mountaineering

Dance (Tango, Country Swing)