

Education

University of Colorado Boulder

- ❖ **B.S. Mechanical Engineering** - GPA: 3.91 | Dean's List, All Semesters **Expected May 2026**
- ❖ **M.S. Mechanical Engineering** - Pursuing Hypersonics Certificate **Expected May 2027**

Skills

Design/Simulation: SolidWorks CSWP/CSWA Certifications | SolidWorks FEA | ANSYS CFD | SimScale CFD | Fusion 360 CAM

Fabrication: Additive Manufacturing | Composite Layups | Composite Materials Analysis and Testing | MIG/TIG Welding

Programming: MATLAB | Arduino IDE | C++ | C | EAGLE | LabVIEW | LTSpice | Python

Experience

Engineering Intern, Thermal Space Ltd **Oct. 2025 – Present**

- ❖ Perform end-to-end fabrication of thermal straps, including assembly, inspection, cleaning, and final finishing using precision instruments and clean-handling procedures, supporting aerospace, defense, and cryogenic applications

Wings Responsible Engineer & Aerodynamics Team Engineer, CU Boulder Formula SAE Team **Aug. 2024 – Present**

- ❖ Increased front wing downforce by 22%, rear wing downforce by 12% and decreased drag by 2% and 41% over 2025 car; utilized SolidWorks and ANSYS CFD for design/simulation, and Haltec potentiometers for on-car aero validation
- ❖ Leading manufacturing and budgeting process for wing components; designed 6 molds in SolidWorks and generated Fusion 360 CAM toolpaths for CNC machining, incorporating DFM/DMFEA principles throughout wing system design
- ❖ Developed a regression model relating bond surface area to tensile strength between carbon fiber and aluminum, manufactured 30+ samples, and utilized a universal testing machine for assessment
- ❖ Manufactured 16+ carbon fiber composite skins for 2025 aerodynamic elements, including prep, layup, and finishing

Mechanical Engineering Intern, Colorado Space Grant Consortium **Feb. 2024 – Sep. 2024**

- ❖ Designed and flight-tested a scientific payload to measure ionizing radiation at 120,000 feet in Earth's atmosphere
- ❖ Designed 25+ flight-critical 3D-printed components with technical drawings, integrated into a 250+ part assembly
- ❖ Led development of a temperature control system in Arduino and EAGLE to regulate payload temperature between -15 and 25°C; designed PCB, resistor heaters, and enclosure to meet strict power and mass constraints
- ❖ Developed a camera-capturing system using Arduino and Eagle to support 3 independent cameras during flight
- ❖ Thermal/vacuum tested payload at NASA Columbia Balloon Facility and validated flight performance via data analysis

Systems Engineer, UAV Tilt Propulsion for Thrust Vectoring | Esotaira Senior Design Project **Aug. 2025 - Present**

- ❖ Leading a team of 10 in the systems design and integration of a one-axis tilt propulsion system for UAV thrust vectoring, utilizing SolidWorks for design and ANSYS FEA for analysis of components
- ❖ Oversee system design, integration, and testing; maintain specifications and SOW documentation per AS9100 specs

Structural Engineering Intern, Consor Engineers **May. 2025 – Aug. 2025**

- ❖ Performed ultrasonic/laser measurement assessments on 250+ structures and authored 300+ DOT reports documenting structural geometry, material thickness, and defects

Lead Hardware Engineer and Co-Founder, AxonIQ - Silicon Flatirons Startup Summer **May. 2025 – Sep. 2025**

- ❖ Led a 5-person team in the development of the first wearable helmet sensor prototype to mitigate undiagnosed head trauma in youth sports; led electrical schematic design and integration, and full sensor development
- ❖ Won Audience Choice Award at 2025 Startup Summer Pitch Night Competition, voted by 200+ attendees

Personal Projects

Autonomous Fixed-Wing UAV **2025**

- ❖ Designed and manufactured a 1.65m autonomous UAV with a flight endurance of 45 min and 36 km range; enabled autonomous multi-waypoint missions via iNav
- ❖ Improved lift-to-drag ratio by 51% and reduced drag by 60% over initial design through 50+ iterative aerodynamic refinements in SolidWorks and ANSYS/SimScale CFD

Forged Carbon Composite Paddle Shifters **Summer 2025**

- ❖ Redesigned OEM paddle shifters in SolidWorks, improved ergonomics/reduced weight by 52% across 10+ prototypes
- ❖ Fabricated reusable 3D-printed mold tooling and successfully executed carbon fiber compression molding process