

Cole Carson

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SUMMARY

Mechanical Engineering undergraduate with hands-on experience in mechanical design, CAD modeling, experimental testing, prototyping, and data analysis. Seeking Summer 2026 Internships and Co-ops.

EDUCATION

Northeastern University, Boston, MA

Bachelor of Science in Mechanical Engineering | Sophomore | GPA: 3.95 / 4.00

Relevant Coursework:

Statics • Intro to Material Science • Engineering Physics I / II • Multivariable Calculus • Differential Equations • Linear Algebra

Valencia High School, Placentia, CA | Valencia Technology Program | GPA: 3.90 / 4.00

TECHNICAL SKILLS

Mechanical Design & CAD: SolidWorks, Onshape, AutoCAD, Design Studies, Topology Optimization

Analysis & Programming: MATLAB, Python, Engineering Data Analysis, Finite Element Analysis

Fabrication & Prototyping: 3D Fused Filament Fabrication (FFF) Printing, Crio Direct-to-Film (DTF) Printing, Direct-to-Garment (DTG) Printing, Laser Cutting/Engraving, Milling, Soldering, Vertical Bandsaw, Scroll Saw, Compound Miter Saw

Technical Documentation: Adobe Illustrator, Adobe Photoshop, Microsoft Word, Microsoft Excel

RESEARCH EXPERIENCE

Transformative Robotics Laboratory, Northeastern University

Undergraduate Researcher | Oct 2025 – Present

- Perform experimental thermal and mechanical testing on metal foams fabricated via viscous thread printing (VTP)
- Calculate thermal conductivity of 3D-printed copper samples and collect compression test data
- Analyze relationships between material volume fraction and measured performance
- Document procedures, results, and observations for ongoing research efforts

Shepherd Laboratory, Northeastern University

Undergraduate Researcher | Oct 2025 – Present

- Support design optimization of a quasi-passive variable stiffness prosthetic ankle
- Apply SolidWorks topology optimization and design studies to evaluate mass reduction and structural response
- Evaluate stiffness and mass tradeoffs to enhance system efficiency and manufacturability

PROJECT EXPERIENCE

FlashFling Soccer — Mechanical & Embedded Systems Project

- Designed and prototyped a tabletop system integrating mechanical components and embedded electronics
- Created CAD models in SolidWorks and fabricated laser-cut assemblies within a \$100 budget constraint
- Integrated a Raspberry Pi Pico, validated low-voltage electrical safety, and conducted iterative testing

Mini-Golf Course Design Project

- Designed and fabricated an 8×4 ft mechanical structure using AutoCAD and shop tools
- Delivered a zero-budget, fully recyclable design under strict material and setup constraints

WORK EXPERIENCE

Math Tutor (Remote) | Aug 2024 – Present

- Tutoring high school students in Algebra 2, Geometry, Trigonometry, Precalculus, and Calculus
- Developing personalized plans for each student that addressed their individual needs, highlighting their strengths and weaknesses in areas where they excel and where improvement is needed

Spyder 3D, Brea, CA

Valencia Technology Program Intern | Jun 2024 – Aug 2024

- Operated and maintained additive manufacturing and laser fabrication equipment
- Supported production and prototyping workflows, addressing technical and quality issues
- Prepared CAD and Adobe design files for manufacturing and fabrication