

Will McMahan

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EDUCATION

University of Colorado Boulder

May 2025

Bachelor of Science in Mechanical Engineering (Integrated Design Program)

Minor in Engineering Management

Cumulative GPA – 3.89/4.00

Dean's List – All Semesters

SKILLS

Software: SolidWorks (CAD, Simulation, Visualize), Arduino, MATLAB, C++, LabVIEW

Certifications: FE Exam (Passed), Certified SolidWorks Professional (CSWP)

Mechanical Design: DFMA, Technical Drawing, Project Management, Product Data Management (PDM), 3D Printing

WORK EXPERIENCE

CAD & Manufacturing Engineer, GrassGuard – Boulder, CO

Oct 2024 – present

- Designed self-powered smart sprinkler optimized for injection molding, reducing water waste by 40%
- Conducted 50+ customer interviews to validate user needs and confirm product-market fit
- Managed 100+ component CAD assembly using master modeling and Bild PDM software
- Created 100+ part and assembly renderings in SolidWorks Visualize for stakeholder deliverables
- Manufactured and tested sprinkler subassemblies using 3D-printed PETG prototypes

Course Assistant – Engineering Projects for the Community, University of Colorado Boulder

Jan 2024 – May 2024

- Guided 6 teams through projects, resulting in 2 awards out of 100+ teams at the Design Expo
- Taught SolidWorks Simulation to predict loads, enabling safer designs with no structural failures
- Instructed on hand calculations and dimensional analysis to validate designs and ensure feasibility

Electronic and Mechanical Intern, Arrigo Enterprises, LLC – Boulder, CO

May 2023 – Dec 2023

- Produced and tested 100+ cables and connectors for 25 thermal testing machines with zero defects
- Interpreted drawings and part files to build machine components, supporting efficient assembly
- Led production of 50+ large through-hole PCBs for unit subassemblies, ensuring quality and function

PROJECTS

Drill-Powered Hill Climbing Vehicle | willmcmahan.com/2024

Jan 2024 – May 2024

- Led team to design and build a 41 lb drill-powered vehicle able to haul 947 lbs up a 15% grade
- Designed vehicle to meet 50 lb weight limit and \$200 budget, ensuring compliance with constraints
- Correctly predicted failure points with FEA and hand calculations, confirmed after competition
- Calculated optimal weight distribution with MATLAB and by hand, preventing slippage on inclines

Award-Winning Sleep Improvement System | willmcmahan.com/2023

Aug 2023 – Dec 2023

- Won Tensentric User-Centered Design award against 100+ other teams at the final Design Expo
- Developed vibrating weighted blanket and sunrise alarm mask to improve sleep quality
- Refined design through 18 interviews and 123 survey responses, improving user experience

ACTIVITIES AND AWARDS

Toastmasters International – Member, Boulder Speakeasy – focused on enhancing public speaking and leadership skills

National Society of Professional Engineers (NSPE) – Student Member

Tensentric User-Centered Design Award – presented for demonstrating life-science innovation / user-experience prioritization

Eagle Scout – the highest rank attainable in the Boy Scouts of America program