Mason Canfield

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Education

James Madison University
Bachelor of Science in Engineering (Electro-Mechanical Systems Concentration)
Minor in Mathematics | Minor in Robotics
GPA: 3.44 / 4.00 Expected May 2027

Skills

Mechanical Design: SOLIDWORKS (CSWA), Fusion 360, parametric modeling, assemblies, engineering drawings, GD&T fundamentals, tolerance analysis, component selection
Prototyping: Mechanical assembly, design for manufacturability, 3D printing, fixtures, hand tools
Testing: Sensors, data acquisition, multimeters, structured test procedures, troubleshooting
Analysis: ANSYS Mechanical (FEA), MATLAB, engineering calculations, technical documentation
Professional: Cross-functional collaboration, technical communication, report writing

Projects

Electro-Mechanical Robotic Gripper System Engineering Design II
- Designed and modeled components in SOLIDWORKS to support rapid prototype fabrication
- Completed full build cycle including assembly, fit verification, and iterative design improvements
- Developed test procedures to evaluate performance, repeatability, and reliability

Embedded Monitoring and Control System Arduino, Sensors
- Built a prototype system to collect sensor data and control actuators using closed-loop feedback logic
- Integrated electronics and mechanical components into a functional test platform
- Performed debugging and validation testing to improve reliability and accuracy

Engine Mount Backplate Structural Analysis ANSYS Mechanical
- Created CAD and finite element models to evaluate a structurally critical component
- Performed calculations and stress analysis to assess safety factors and load paths
- Documented results and recommended design improvements based on analysis

Vehicle Body Design & Wind Tunnel Testing ASME Project Streamline
- Developed CAD assemblies and iterated designs for manufacturability and performance
- Conducted wind tunnel testing and compared experimental data to predictions
- Collaborated with teammates to refine designs and document findings

Experience

Student-Athlete Tutor James Madison University
Jan 2025 – Present
- Communicated technical concepts to support analytical problem solving
- Reviewed calculations and methods for accuracy and logical consistency
- Developed structured approaches to break complex problems into repeatable steps

Landscaping Technician Steeplechase Lawn Services
May 2023 – Aug 2025
- Diagnosed and repaired mechanical equipment to maintain reliable operation
- Performed hands-on maintenance and troubleshooting in field environments
- Supported time-sensitive tasks through coordination with a small team