James Wade

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OBJECTIVE

Passionate 4th-year 4.0 GPA mechanical engineering major, with minors in computer science and mathematics, seeking a Summer 2025 internship in aerospace, defense, mechatronic systems, or computational analysis.

EDUCATION

BACHELOR OF MECHANICAL ENGINEERING, COMPUTER SCIENCE & MATH MINORS *April 2026*
Brigham Young University – Ira A. Fulton College of Engineering, 4th year
GPA: 4.0 | **ACT**: 35 (99th percentile) | **SAT**: 1550 (99th percentile)
Awards & Honors: Highest-ranked student in engineering program; one of six national finalists in NASA BIG Idea competition; President Russell M. Nelson Scholar (highest scholarship at BYU)
Technical Groups: Mars Rover Team, Rocketry club, Spacecraft club, Mechatronics club, Global Engineering Outreach

WORK EXPERIENCE

EMBEDDED SYSTEMS INTERN *May 2024 – present*
Lawrence Livermore National Laboratory (LLNL) – Livermore, CA

- Successfully prototyped an STM32 MCU-based remote control system to command a fleet of rafts designed for testing nuclear weapon functionality (LIDSS program)
- Utilized FreeRTOS for dynamic task management, and developed driver for LVGL-based UI
- Solely responsible for the mechanical, electrical, and software development of the entire project

ROBOTICS RESEARCH ASSISTANT – Team Lead (One of Six National Finalists) *Aug 2023 – present*
Brigham Young University – Provo, UT

- Developing a redesign for a soft, inflatable octahedral robot for space application in NASA BIG Idea competition
- Developed a new radio structure for single parent-multiple children communication with error-checking
- Simulating the motion of the octahedral truss structure through inverse kinematics

MECHANICAL ENGINEER INTERN *Mar 2023 – Oct 2023*
Ultradent Products, Inc. – South Jordan, UT

- Prototyped a medical syringe machine to assemble, fill, and cap a syringe in seven seconds
- Designed sheet metal shrouds for retaining chemicals and an offload system to reject deficient syringes
- Led Scrumban-style daily and monthly goal-setting meetings, and gave presentations to investors

COMPLIANT MECHANISMS RESEARCH ASSISTANT *Jun 2023 – Aug 2023*
Mark Rober / Brigham Young University – Provo, UT

- Worked with Mark Rober and a team to create The World's Smallest Nerf Gun on five scales (>55 million views)
- Performed 100+ tests to analyze failure modes of the device and provided weekly reports to optimize the design

OTHER PROJECTS

Awarded top five finisher in line-following mechatronics competition

- Led the coding development in C, implementing closed-loop PID for navigation and sensors for task execution

Serving as Payload Engineer for the BYU Rocketry Experimental High Power Competition Team

- Designing a water ballast for both our first-ever team competition and the first hybrid motor rocket at BYU

Created a custom 3D printer (individual project)

- Fully upgraded an Ender 3; now designing a core-xy 3D printer, showcasing precision and engineering ingenuity

Built and modeled the behavior of a homemade DC motor (team lead)

- Using Matlab, the dynamic behavior was measured and predicted for our custom-designed DC motor

Various individual coding projects in C/C++, Python, Matlab, and Java

RELEVANT COURSEWORK & SKILLS

Relevant Coursework: ROS2, Control Theory (PID, Full-State, Observers, MPC, LQR), Mechatronics, Deep Learning, SolidWorks, Ansys FEA, Kinematics, Dynamic System Modeling, Thermodynamics, Mechanical System Design, Electrical Circuit Design
Design: GD&T, Arduino, ESP32, STM32, Eagle, 3D Printing
Computer: C/C++ (advanced), Matlab (advanced), Python (advanced), Excel (intermediate), Java (intermediate), Git
Certifications: SolidWorks Professional Design, SolidWorks Sheet Metal
Leadership: Time Management, Adaptability, Conflict Resolution, Collaboration