Dylan Hammond

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EDUCATION

M.S. Mechanical Engineering: Utah State University (Robotics and Control Systems Emphasis)　　**Expected May 2026**
B.S. Mechanical Engineering: Utah State University　　**Graduated May 2025**
- Coursework: Multivariable Control, Nonlinear Control, Mechatronics, ROS, Deep Learning, Robotics Planning　　**GPA: 3.76**

SKILLS

- **Programming:** Python, MATLAB, Simulink, C++, ROS2, Git
- **Software:** Abaqus CAE, SolidWorks, MS Office
- **Other:** 3D Printing, Carbon Fiber Manufacturing, GD&T, Technical Drawings, Portuguese (fluent)

PROJECTS

Aggie Maps　　**October 2025 – December 2025**
- Developed a python-based interactive path planning tool for pedestrian navigation on Utah State University campus
- Implemented A* algorithm to compute optimal routes; includes optimal indoor paths for cold weather conditions

Autonomous Target-Tracking Turret　　**May 2025 – October 2025**
- Built a 3D printed autonomous Arduino pan-tilt nerf turret capable of accurate object tracking and firing
- Developed a closed loop targeting system using real-time computer vision and servo actuation (Python, OpenCV, Arduino IDE, PID controller design)

Capstone Project: Hand-Signal Interpreter Glove　　**August 2024 – April 2025**
- Collaborated with team of five to develop a wearable glove capable of interpreting 25 military hand signals at 95% accuracy
- Programmed and calibrated IMU and flex sensors for real-time gesture data acquisition.
- Optimized deep learning algorithm to classify sensor data for gesture recognition
- Developed ESP32 firmware to control RC car drone based on glove input
- Integrated mode switches and RGB indicators for full-system control and feedback

Autonomous Following RC Car　　**April 2025**
- Built Arduino-based RC car that autonomously follows user-controlled RC car using ultrasonic sensors and PID control; implemented closed-loop system in Simulink

WORK EXPERIENCE

Undergraduate Research Assistant　　**August 2024 – August 2025**
EMAC Lab - Utah State University　　Logan, UT
- Developed FEA models in Abaqus for electromechanical loading on materials for roadway electrification
- Automated postprocessing of simulation data using Python
- Named 2024 Undergraduate Scholar and winner of the 2022 USU Undergraduate Poster Competition

Product Development Intern　　**May 2025 – August 2025**
Autoliv　　Ogden, UT
- Optimized airbag tether sizes to improve deployment safety
- Designed a steel testing mount for airbag deployment using SolidWorks

Photovoltaics and Materials Internship　　**May 2022 – August 2022**
Sandia National Laboratories　　Albuquerque, NM
- Optimized microgrid solar array power output through positioning and axis tracking in python
- Authored Sandia Labs technical paper on solar microgrid implementation strategies for small communities
- Presented work and research to the National Renewable Energy Laboratory