Dylan Hammond

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EDUCATION

M.S. Mechanical Engineering: Utah State University **Expected May 2026**
B.S. Mechanical Engineering: Utah State University **Graduated May 2025**

- Coursework: Multivariable Control, Nonlinear Control, Mechatronics, Spacecraft Navigation, Robotics Planning **GPA: 3.71**

SKILLS

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

PROJECTS

Aggie Maps **October 2025 – Present**

- Developing a python-based path planning tool for pedestrian navigation on Utah State University campus
- Implementing 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 fully automated pan-tilt nerf turret capable of accurate 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 Senior Project: Hand-Signal Interpreter Glove **August 2024 – April 2025**

- Collaborated with team of five to create 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 ML algorithm to classify sensor data for gesture recognition
- Programmed ESP32 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

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

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

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