

# Dylan Hammond

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## EDUCATION

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<b>M.S. Mechanical Engineering: Utah State University (Robotics and Control Systems Emphasis)</b>	<b>Expected May 2026</b>
<b>B.S. Mechanical Engineering: Utah State University</b>	<b>Graduated May 2025</b>
<ul style="list-style-type: none"><li>Coursework: Mechatronics, Robotics Planning, ROS, Deep Learning, Multivariable Control, Nonlinear Control</li></ul>	<b>GPA: 3.76</b>

## SKILLS

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- Programming:** Python, MATLAB, Simulink, C++, ROS2, Git
  - GNC & Robotics:** PID, LQR, Sensor Fusion, Embedded Systems
  - Tools & Software:** Abaqus, SolidWorks
  - Hardware & Manufacturing :** 3D Printing, Carbon Fiber Manufacturing, GD&T, Technical Drawings
  - Languages:** Portuguese (fluent)

## PROJECTS

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<b>Autonomous Target-Tracking Turret</b>	<b>May 2025 – October 2025</b>
<ul style="list-style-type: none"><li>Designed autonomous pan-tilt turret using computer vision and servo actuation for real-time target tracking</li><li>Implemented closed-loop control system using PID controllers for stable tracking performance</li><li>Integrated OpenCV object detection with embedded motor control on Arduino</li></ul>	

<b>Capstone Project: Hand-Signal Interpreter Glove</b>	<b>August 2024 – April 2025</b>
<ul style="list-style-type: none"><li>Collaborated with team of five to develop a wearable glove capable of interpreting 25 military hand signals at 95% accuracy</li><li>Programmed and calibrated IMU and flex sensors for real-time gesture data acquisition</li><li>Designed and deployed a 1D CNN, enabling embedded gesture classification on an ESP32 microcontroller</li><li>Developed embedded firmware to wirelessly control an RC vehicle based on recognized hand signals</li><li>Integrated mode switching and RGB indicators for full-system control and feedback</li></ul>	

<b>Autonomous Following RC Car</b>	<b>March - April 2025</b>
<ul style="list-style-type: none"><li>Designed autonomous follower vehicle using ultrasonic sensing and PID control (MATLAB/Simulink)</li><li>Implemented closed-loop distance regulation using real-time sensor feedback</li></ul>	

<b>Aggie Maps</b>	<b>November 2025 – December 2025</b>
<ul style="list-style-type: none"><li>Developed a Python-based interactive path planning tool for pedestrian navigation on Utah State University campus</li><li>Implemented A* algorithm to compute optimal routes with dynamical cost functions for environmental constraints</li></ul>	

## WORK EXPERIENCE

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<b>Undergraduate Research Assistant</b>	<b>August 2024 – August 2025</b>
EMAC Lab - Utah State University	Logan, UT
<ul style="list-style-type: none"><li>Developed FE models in Abaqus to simulate electromechanical loading on materials for roadway electrification</li><li>Automated simulation post-processing using Python, reducing analysis time</li><li>Recognized as 2024 Undergraduate Scholar and winner of USU Undergraduate Poster Competition</li></ul>	

<b>Product Development Intern</b>	<b>May 2025 – August 2025</b>
Autoliv	Ogden, UT
<ul style="list-style-type: none"><li>Optimized passenger airbag tether sizes to improve deployment safety</li><li>Designed a steel testing mount for airbag deployment using SolidWorks</li></ul>	

<b>Photovoltaics and Materials Internship</b>	<b>May 2022 – August 2022</b>
Sandia National Laboratories	Albuquerque, NM
<ul style="list-style-type: none"><li>Optimized microgrid solar array power output through positioning and axis tracking in Python</li><li>Authored Sandia Labs technical paper on solar microgrid implementation strategies for small communities</li><li>Presented work and research to the National Renewable Energy Laboratory</li></ul>	