



Education

Embry-Riddle Aeronautical University

Bachelor of Science in Aerospace Engineering | Concentration: Astronautics

Bachelor of Science in Engineering Physics | Concentration: Spacecraft Systems

- Minors: Applied Mathematics & Computer-Aided Design/Manufacturing
- Honors: Dean's List (All terms), JPL-ERAU Student Ambassador, Spark Grant Recipient

Anticipated May 2025

GPA: 3.76/4.00

Honors Program

Broward Community College

Associate of Arts in Engineering with Highest Honors

- Honors: President's List (3 terms), Dean's List (1 term)

May 2020

GPA: 3.87/4.00

Skills

Programming	MATLAB/Simulink, Python, C/C++, ROS, Arduino, Linux, GitHub, Visual Studio Code
Design & Analysis	SOLIDWORKS (CSWA), CATIA V5, Autodesk Inventor, Altium Designer, Ansys Workbench, Blender
Manufacturing	FDM/MSLA Printing, CNC Laser Cutting, Soldering, PCB Design, DFMA, Rapid Prototyping
Languages	English (Native), Spanish (Conversational), French (Basic Proficiency)

Research & Professional Experience

Embry-Riddle Aeronautical University

Undergraduate Research Assistant | Dr. Aroh Barjatya | Space and Atmospheric Instrumentation Lab

Feb. 2023 - Present

- Developed a Python script to parse Ionogram readings during the 2024 total solar eclipse, aiding in the analysis of data for the NASA APEP 2 mission.
- Replaced a failing visual system with custom telemetry, improving the control and monitoring of sounding rocket instrumentation during deployment.
- Assembled and deployed several GPS receivers to assess the impact of SpaceX's Falcon Heavy launch on ionospheric wave propagation.

Engineering Sciences Tutor (CRLA Certified)

Aug. 2022 - Present

- Mentored over 200 students in foundational engineering subjects, including Statics, Dynamics, Solid Mechanics, MATLAB, and Computer-Aided Design.
- Awarded for providing impactful guidance to students, consistently receiving positive feedback, and contributing to a 9% improvement in pass rates.

Carnegie Mellon University

Robotics Institute Summer Scholar (NSF REU) | Dr. Sebastian Scherer & Steven Willits | AirLab

May 2024 - Aug. 2024

- Led preliminary design and feasibility analysis for a semi-autonomous eVTOL emergency ambulance drone, driving early-stage project development.
- Optimized mission critical factors through iterative design, with a personal focus on aircraft sizing, weight distribution, power, and propulsion systems.
- Refined research communication skills through academic talks, representing my cohort at the 3MRT Symposium, culminating in a published paper.

NASA Glenn Research Center

OSTEM Intern | Dr. Herbert Schilling | Graphics and Visualization Lab

Aug. 2023 - Dec. 2023

- Developed a virtual twin of the NASA Electric Aircraft Testbed and surrounding facilities, enabling VR visualization for the construction of a new facility.
- Designed detailed models for the X-66A, an experimental aircraft developed by Boeing and NASA to validate a transonic truss-braced wing concept.
- Awarded first place in a global hackathon, where our team developed a machine learning algorithm to improve wildfire detection in rural areas.
- Served as the PAXC Glenn Research Center Chair, coordinating with site leaders to organize collaborative events across NASA centers.

Honeywell Aerospace

Electrical & Systems Engineering Intern

May 2023 - Aug. 2023

- Optimized the design and implementation of a knowledge-based diagnostic tool, regularly validating functionality with site engineers and technicians.
- Presented the final tool to upper management, projecting annual savings of \$250,000 and a framework to extend these savings across product lines.

Student Researcher

Nov. 2022 - May 2023

- Selected for an industry research program to streamline the diagnosis and repair procedures for malfunctioning inertial navigation systems.
- Organized weekly sessions to identify the prevalent failure modes in faulty units and developed effective diagnostic trees to resolve them.

Selected Projects

Autonomous Balancing Cube Robot | Undergraduate Research Project, Awarded Grant Funding

Feb. 2024 - Present

- Secured a \$1000 grant to develop an open-source balancing cube robot, leading a team of 4 to validate and optimize alternative control algorithms.
- Spearheading the design of a novel braking mechanism, enabling independent actuation from any orientation and supporting locomotion capabilities.

Topologically Optimized Bracket | Mechanical Design Competition

Jan. 2025 - Mar. 2025

- Performed FEA and topology optimization, rapidly iterating PLA bracket prototypes to design a structure that supports a minimum load of 45 pounds.
- Minimized bracket to 20 grams while successfully bearing a peak load of 415 pounds, dramatically exceeding the previous university record by 418%.

3D Printed Exoskeleton | Mechatronics Capstone

Aug. 2024 - Dec. 2024

- Designed and printed multiple PETG components, integrating a load cell, servo, and encoder on a custom PCB for precise motion control and feedback.
- Developed and implemented point-to-point and force-control behaviors in C++ to enable dynamic actuation of the robotic exoskeleton arm.