

Kilian O. Olen

☎ (954) 661-2679 | ✉ kilianolen@gmail.com | 🌐 kilian-olen.github.io | 🔗 linkedin.com/in/olenk

Education

Embry-Riddle Aeronautical University

Anticipated May 2025

Bachelor of Science in Aerospace Engineering | Concentration: Astronautics

GPA: 3.76/4.00

Bachelor of Science in Engineering Physics | Concentration: Spacecraft Systems

Honors Program

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

Skills

Programming	MATLAB/Simulink, Python, C/C++, ROS, Arduino, Visual Studio Code
Design	CATIA V5, SOLIDWORKS, Autodesk Inventor, Ansys, Femap/Nastran, Blender
Manufacturing	FDM/SLA Printing, CNC Laser Cutting, Soldering, PCB Design, 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 from the Global Ionospheric Radio Observatory during the 2024 total solar eclipse, aiding in the analysis of data for the NASA APEP 2 mission.
- Integrated a Feather M0 microcontroller and 9DOF IMU to calculate RPM and angular acceleration of a rocket spin table for sensor deployment.
- Constructed a wireless communication system using MATLAB and Arduino to transmit live IMU readings across LoRa radio modules.
- Assembled and deployed GPS receivers to assess the impact SpaceX's Falcon Heavy had on ionospheric wave propagation.

Engineering Sciences Tutor (CRLA Certified)

Aug. 2022 - Present

- Mentored 150+ students in foundational engineering subjects, including Statics, Dynamics, Solid Mechanics, MATLAB, and Computer-Aided Design, fostering a deeper understanding and practical application of key engineering principles.

Carnegie Mellon University

Robotics Institute Summer Scholar | [Steven Willits](#) | [AirLab](#)

May 2024 - Aug. 2024

- Conducted preliminary design and feasibility analysis for a 3-year initiative to develop a semi-autonomous eVTOL emergency aircraft, with a personal focus on optimizing sizing, weight distribution, power and propulsion systems.
- Enhanced research communication skills via [oral](#) and [poster](#) presentations, culminating in a published [paper](#).

NASA Glenn Research Center

OSTEM Intern | [Dr. Herbert Schilling](#) | [Graphics and Visualization Lab](#)

Aug. 2023 - Dec. 2023

- Designed detailed models for the X-66A, an experimental aircraft by Boeing and NASA targeting net-zero aviation greenhouse gas emissions.
- Developed a virtual twin of the NASA Electric Aircraft Testbed and surrounding facilities to aid in the construction of a new testing facility.
- Guided students in STEM outreach, leveraging NASA's advanced research and technology to inspire future innovators.

Honeywell Aerospace

Electrical & Systems Engineering Intern | [Trish Lueck](#)

May 2023 - Aug. 2023

- Built upon my role in a research program by further refining and optimizing the design and implementation of a knowledge-based system.
- Coordinated with site engineers and technicians to ensure alignment between system functionality and manufacturing requirements.
- Delivered the completed system to facility leaders, highlighting a projected annual labor cost reduction of \$250,000 while establishing a framework to extend these savings to other product lines.

Student Researcher | [Warren La Chance](#)

Nov. 2022 - May 2023

- Volunteered for an industry research program to streamline the diagnosis and repair procedures for malfunctioning inertial navigation systems, addressing a pressing issue at Honeywell facilities.
- Organized weekly sessions to identify the prevalent failure modes in faulty units and developed effective diagnostic trees to resolve them.

Selected Projects

Wheeled Biped for Discontinuous Terrains | Independent Research Project, Awarded Grant Funding

Feb. 2024 - Present

- Secured a \$1000 grant to develop a cost-effective jumping wheeled biped, serving not only as a platform for testing control algorithms, but also as an educational resource for students interested in robotics.
- Spearheading the mechanical design, sensor integration, and system simulations for the research project.
- Expected outcomes include an academic paper, a low-cost open-source prototype, and detailed video documentation that will allow students to follow along without any prior experience and learn how to design their own robots.

Buoyant Pneumatic Drone | Space Systems Capstone

Jan. 2023 - May 2023

- Designed a physical model to simulate satellite orbital adjustments in a 2D plane, implementing cold gas thrusters and autonomous control.
- Utilized parametric modeling principles to facilitate iterative design improvements while ensuring compliance with all design requirements.
- Developed a virtual model of the system in Matlab, enabling rapid evaluation and optimization of control algorithms.
- Presented the system to faculty and peers, incorporating feedback to drive further design refinements.