

Kilian O. Olen

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PERSONAL PROFILE

A self-motivated, detail-oriented student with research experience in academic and industrial settings, aspiring to pursue a Master of Science in Mechanical Engineering. A current NASA OSTEM intern and undergraduate honors student with a burning desire to conduct research in Robotics, focusing on biologically inspired design, control, and exploration in dynamic environments, including planetary systems. A confident presenter and tutor, skilled at simplifying complex concepts for learners at all levels.

EDUCATION

Bachelor of Science in Aerospace Engineering

Embry-Riddle Aeronautical University (ERAU), Daytona Beach, Florida

- Concentration: Astronautics
- Minor: Computer Aided Design / Computer Aided Manufacturing
- Academic Honors: Dean's List (All terms)

Expected May 2025

GPA: 3.75/4.00

Honors Program

Bachelor of Science in Engineering Physics

Embry-Riddle Aeronautical University, Daytona Beach, Florida

- Concentration: Spacecraft Systems
- Minor: Applied Mathematics
- Academic Honors: Dean's List (All terms)

Expected May 2025

GPA: 3.75/4.00

Honors Program

Associate of Arts with Highest Honors in Engineering

Broward College, Davie, Florida

- Academic Honors: President's List (3 terms), Dean's List (1 term)
- Graduation Honors: Highest Honors, Robert "Bob" Elmore Honors College

June 2020

GPA: 3.94/4.00

RESEARCH INTERESTS

Biologically Inspired Robotics
Field Robotics
Planetary Robotics

Search and Rescue Robotics
Space Robots and Systems
Human-Robot Interaction

Legged Robots
Manipulation

RESEARCH EXPERIENCE

ERAU Space and Atmospheric Instrumentation Laboratory

Undergraduate Research Assistant to Dr. Aroh Barjatya

Daytona Beach, Florida

Feb. 2023 – Present

- Soldered and assembled multiple payloads to be used in upcoming GPS radiosonde balloon satellite launches, demonstrating skills in soldering and electronic component integration.
- Tested thermistors intended for future balloon satellite payloads, selecting an optimal operating range to achieve precise altitude-dependent readings, contributing to data accuracy in high-altitude experiments.
- Enhanced the control and monitoring system of a spin table used in testing boom deployment on sounding rockets, introducing improvements that significantly increased system efficiency and data accuracy for critical rocket deployment experiments.
- Assisted with the deployment and monitoring of GPS receivers to assess the impact of a nearby SpaceX Falcon Heavy launch on ionospheric electromagnetic wave propagation.

Honeywell Aerospace / ERAU Office of Undergraduate Research

Clearwater, Florida

Electrical & Systems Engineering Research Assistant

Nov. 2022 – May 2023

- Volunteered to contribute to a collaborative research endeavor, jointly undertaken by Embry-Riddle Aeronautical University and Honeywell Aerospace, which sought out students with a strong engineering background and electrical experience to address real-world industry challenges.
- Hosted weekly meetings with a cross-functional team to design and implement a knowledge-based system capable of streamlining and eliminating bottlenecks in the diagnosis and repair of faulty inertial navigation systems, resolving an issue that had been halting progress at the facility.

RELEVANT PROFESSIONAL EXPERIENCE

NASA John H. Glenn Research Center

Cleveland, Ohio

Graphics and Visualization Lab Intern

Aug. 2023 – Present

- Contribute to the development of concept vehicles within a cutting-edge flight simulator, actively engaging in the creation of related visualizations using virtual reality and augmented reality technologies.
- Support ongoing visualization efforts with the modeling of both conceptual electric aircraft designs and hardware prototypes.

Honeywell Aerospace

Clearwater, Florida

Electrical & Systems Engineering Intern

May 2023 – Aug. 2023

- Expanded upon my involvement in the research program by transitioning to a summer internship position at the Clearwater facility.
- Maintained an integral role in the project following this transition, further refining and optimizing the design and implementation of the knowledge-based system.
- Proactively scheduled and conducted frequent meetings with site engineers and technicians, which provided valuable insights into the intricacies of the manufacturing process and ensured a seamless alignment between the system's functionality and the manufacturing requirements.
- Presented the model to facility leaders, highlighting a projected annual labor cost reduction of \$250,000 for the eTALIN product line and establishing a framework for extending these savings to other product lines.

ERAU Academic Advancement Center

Daytona Beach, Florida

Engineering & Engineering Sciences Tutor

Aug. 2022 – Present

- Provide mentorship and guidance to fellow students, actively assisting them in improving their understanding of fundamental engineering disciplines including Statics, Dynamics, Solid Mechanics, MATLAB, and Aerospace Vehicles.

RELEVANT PROJECT EXPERIENCE

Buoyant Pneumatic Drone

Jan. 2023 – May 2023

- Developed a cost-effective model to simulate satellite orbital adjustments in a 2D plane, implementing cold gas thrusters and autonomous control behaviors.
- Designed detailed 3D models of the proposed system in Autodesk Inventor, facilitating iterative design improvements and ensuring compliance with all specifications.
- Programmed a virtual model of the system in Matlab, showcasing a strong understanding of dynamics and simulation.
- Presented the completed system to peers, demonstrating its ability to achieve its design objectives and its potential for future applications.

Balloon Satellite Sun Tracking Payload

Jan. 2023 – May 2023

- Designed and prototyped a balloon satellite payload capable of tracking the orientation of the sun and transmitting relevant data to a ground station.
- Spearheaded the construction of power and monitoring subsystems, implementing signal conditioning circuits for further signal processing via an embedded microcontroller running custom C code.
- Integrated all subsystems into a functional payload, successfully demonstrating accurate tracking during field testing.

SELECTED HONORS & AWARDS

Dean's List, Embry-Riddle Aeronautical University	(All Terms) Fall 2020 - Present
Diamond Eagle Scholarship, Embry-Riddle Aeronautical University	Fall 2020 - Present
Bright Futures Academic Scholarship, Florida Department of Education	Fall 2020 - Present
Visionary Scholarship, American College Foundation	July 2020
President's List, Broward College	Fall 2018, Fall 2019, Spring 2020
Dean's List, Broward College	Spring 2019
Commended Student, National Merit Scholarship Corporation	Nov. 2019

SKILLS

- Programming & Analysis: MATLAB, Python, C/C++, Arduino, Microsoft Excel
- Design & Simulation: CATIA V5, Autodesk Inventor, Fusion 360, Blender, Femap
- Technical: 3D Printing, Soldering, Circuit Design, Rapid Prototyping
- Languages: English (Native), Spanish (Conversational), French (Basic Proficiency)

References Available Upon Request