Kilian Olen

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Summary

BS honors student in aerospace engineering and engineering physics at Embry-Riddle Aeronautical University, consistently honored on the Dean's List, and a dedicated tutor and undergraduate researcher. Combining research experience from both academia and industry, along with internships at NASA and Honeywell, I am determined on pursuing a graduate degree researching biologically-inspired robotics, with a keen interest in novel modes of robot locomotion and manipulation.

Education

Embry-Riddle Aeronautical University, ERAU — **Anticipated May 2025**

Bachelor of Science in Aerospace Engineering | Concentration: Astronautics — Daytona Beach, Florida

Bachelor of Science in Engineering Physics | Concentration: Spacecraft Systems — GPA: 3.72/4.00

- Minors: Applied Mathematics & Computer-Aided Design/Manufacturing — Honors Program
- Academic Honors: Dean's List (All terms)

Broward College — **Aug. 2020**

Associate of Arts in Engineering — Davie, Florida

- Academic Honors: President's List (3 terms), Dean's List (1 term) — GPA: 3.92/4.00
- Graduation Honors: Highest Honors, Robert "Bob" Elmore Honors College

Research Experience

ERAU Office of Undergraduate Research — **Feb. 2024 – Present**

Undergraduate Researcher — Daytona Beach, Florida

- Successfully secured an internal grant of $1000 to conduct independent research on the design of a wheeled bipedal robot capable of traversing across discontinuous terrains.
- Currently leading all aspects of the research project, including design, control, data collection, analysis, and interpretation.
- Expected outcomes include a cost-effective, open-source design that will open the door for others to explore a similar topic, and a research paper detailing the methodology, findings, and potential applications of the project.

ERAU Space and Atmospheric Instrumentation Laboratory — **Feb. 2023 – Present**

Undergraduate Research Assistant to Dr. Aroh Barjatya — Daytona Beach, Florida

- Integrated a Feather M0 microcontroller with a 9DOF IMU to accurately track and monitor a sounding rocket boom spin table.
- Utilized MATLAB and the Arduino IDE to develop a wireless communication system capable of transmitting live IMU readings across LoRa radio modules, improving system efficiency and data accuracy for future experiments.
- Implemented a MATLAB script to parse through individual data packets and export the transmitted data into a formatted Excel table.
- Soldered and constructed multiple payloads for GPS radiosonde balloon satellite launches.
- Assisted with the deployment and monitoring of GPS receivers used to assess the launch impact SpaceX's Falcon Heavy had on ionospheric electromagnetic wave propagation.

Honeywell Aerospace & ERAU Office of Undergraduate Research — **Nov. 2022 – May 2023**

Electrical & Systems Engineering Research Assistant — Daytona Beach, Florida

- Volunteered for a collaborative research program aimed at optimizing the diagnosis and repair processes of malfunctioning inertial navigation systems, addressing a pressing issue at Honeywell's facility.
- Organized weekly meetings to identify prevalent failure modes in the INU and develop effective diagnostic trees.

Relevant Professional Experience

NASA Glenn Research Center — **Aug. 2023 – Dec. 2023**

OSTEM Intern — Cleveland, Ohio

- Designed detailed models of the X-66A, a Transonic Truss-Based Wing concept vehicle developed between Boeing and NASA under the Advanced Air Transport Technology initiative.
- Developed models and assemblies for ongoing construction efforts to facilitate the replacement of NASA's Electric Aircraft Testbed with an improved test facility.
- Volunteered at numerous NASA outreach events, where I played a key role in both informing and inspiring the public about cutting-edge research and technology.

Honeywell Aerospace **May 2023 – Aug. 2023**

Electrical & Systems Engineering Intern Clearwater, Florida

- Maintained an integral role in the project by further refining and optimizing the design and implementation of a knowledge-based system.
- Proactively scheduled and conducted frequent meetings with site engineers and technicians, providing valuable insights into the intricacies of the manufacturing process and ensuring a seamless alignment between the system's functionality and the manufacturing requirements.
- Presented the completed 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 **Aug. 2022 – Present**

Engineering & Engineering Sciences Tutor Daytona Beach, Florida

- 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.

Skills

Programming MATLAB/Simulink, Python, C/C++, Arduino, Microsoft Excel

Design CATIA V5, SolidWorks, Autodesk Inventor, Femap/Nastran, Blender

Technical FDM/SLA Printing, Soldering, PCB Design, Rapid Prototyping

Languages English (Native), Spanish (Conversational), French (Basic Proficiency)

Extracurricular Activities

NASA Promoting Agency Cross-Center Connections (PAXC) **Aug. 2023 – Dec. 2023**

Glenn Research Center Chair Cleveland, Ohio

- Served as the primary liaison for the Glenn Research Center within PAXC, an intern-led organization aimed at fostering communication and collaboration across NASA centers to promote a unified organization.
- Conducted an agency-wide presentation to showcase the achievements and ongoing research initiatives at the Glenn Research Center.

NASA Space Apps Challenge **Oct. 2023**

VULCAN Team Lead Cleveland, Ohio

- Competed in a two-day worldwide NASA hackathon that tasked our team with using open data from NASA and its Space Agency Partners to solve challenges encountered on Earth and in space.
- Utilized real-time NASA LANDSAT data to identify potential wildfires and categorize their risk level through a machine learning algorithm trained on NOAA satellite data in conjunction with the Fosberg Fire Weather Index.
- Demonstrated a functional prototype to a panel of NASA judges who awarded our team the first place prize for the Glenn Research Center competition and nominated us as a global nominee.

Robot Sumo Competition **May 2020**

Team Lead Davie, Florida

- Spearheaded the design and development of an autonomous sumo bot, resulting in a highly competitive robot that consistently performed well in both offensive and defensive scenarios
- Developed custom Python scripts enabling autonomous movement and defensive behaviors in a dynamic environment
- Demonstrated strong leadership and project management skills, where through effective collaboration and communication, our team's design won the competition.

Honors & Awards

Spark Grant Recipient, ERAU Office of Undergraduate Research **Feb. 2024**

First Place, NASA Space Apps Challenge (Glenn Research Center) **Oct. 2023**

Dean's List, ERAU College of Engineering **Fall 2020 - Present**

Bright Futures Academic Scholar, Florida Department of Education **Fall 2020 - Present**

Visionary Scholar, American College Foundation **Jun. 2020**

President's List, Broward College **Fall 2018, Fall 2019, Spring 2020**

Commended Student, National Merit Scholarship Corporation **Nov. 2019**

Dean's List, Broward College **Spring 2019**

Independent Study

- R. McNeill Alexander, Principles of Animal Locomotion **Nov. 2023 – Present**
- University of Michigan, Robotics OpenCourseWare **Aug. 2023 – Present**
- Rice University, Introduction to Biology: Ecology, Evolution, and Biodiversity **Aug. 2023**
- Northwestern University, Modern Robotics: Mechanics, Planning, and Control **Aug. 2023**