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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

Embry-Riddle Aeronautical University (ERAU), Daytona Beach, Florida **Expected May 2025**
Bachelor of Science in Aerospace Engineering | Concentration: Astronautics GPA: 3.75/4.00
Bachelor of Science in Engineering Physics | Concentration: Spacecraft Systems Honors Program
- Minors: Applied Mathematics & Computer Aided Design/Manufacturing
- Academic Honors: Dean's List (All terms)

Broward College, Davie, Florida **June 2020**
Associate of Arts in Engineering GPA: 3.94/4.00
- Academic Honors: President's List (3 terms), Dean's List (1 term) Honors College
- Graduation Honors: Highest Honors, Robert "Bob" Elmore Honors College

RESEARCH EXPERIENCE

ERAU Space and Atmospheric Instrumentation Laboratory **Feb. 2023 – Present**
Undergraduate Research Assistant to Dr. Aroh Barjatya
- Assembled and soldered payloads for GPS radiosonde balloon satellite launches.
- Tested multiple thermistor configurations for improved data accuracy in high-altitude experiments.
- Enhanced the control and monitoring system of a spin table used in rocket boom deployment testing.
- Assisted with the deployment and monitoring of GPS receivers during a nearby SpaceX Falcon Heavy launch to study ionospheric electromagnetic wave propagation.

Honeywell Aerospace / ERAU Office of Undergraduate Research **Nov. 2022 – May 2023**
Electrical & Systems Engineering Research Assistant
- Volunteered for a collaborative research program between Embry-Riddle and Honeywell Aerospace to tackle real-world industry challenges.
- Contributed to a cross-functional team to design and implement a knowledge-based system that streamlined the diagnosis and repair of faulty inertial navigation systems.

RESEARCH INTERESTS

Biologically Inspired Robotics
Field Robotics
Planetary Robotics
Search and Rescue Robotics
Space Robots and Systems
Human-Robot Interaction
Legged Robots
Manipulation

RELEVANT PROFESSIONAL EXPERIENCE

NASA John H. Glenn Research Center **Aug. 2023 – Present**
Graphics and Visualization Lab Intern
- 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 **May 2023 – Aug. 2023**
Electrical & Systems Engineering Intern
- 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 **Aug. 2022 – Present**
Engineering & Engineering Sciences Tutor
- 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 **Fall 2020 - Present**
- Diamond Eagle Scholarship, Embry-Riddle Aeronautical University **Fall 2020 - Present**
- Bright Futures Academic Scholarship, Florida Department of Education **Fall 2020 - Present**
- First Place, NASA Space Apps Challenge (Glenn Research Center) **Oct. 2023**
- 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