Evan Soto

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EDUCATION

University of Florida, Herbert Wertheim College of Engineering **Fall 2025**
Bachelor of Science in Aerospace Engineering **GPA 3.3/4.0**
Relevant Coursework: Computer Aided Design, Design and Manufacturing Lab, MATLAB, Mechanics of Materials, Aerospace Structures, Dynamics, Controls, Aerodynamics, Astrodynamics, Vibrations, Differential Equations 1 & 2, Statics, Mechanics of Materials Lab, Compressible Flow, Stability and Control of Aircraft, Dynamics and Control of Space Vehicles

LEADERSHIP & INVOLVEMENT

Swamp Launch Rocket Team **August 2022 – Present**

NASA USLI Structures Lead **August 2024 – May 2025**

- Led a sub-team of 10 members in the design, construction, and validation of structural components of a sub-scale and full-scale rocket, overseeing manufacturing, technical reporting, and performance testing to ensure mission success.
- Modeled the design of the launch vehicle using Fusion 360 CAD software to ensure proper fit and assembly of components.
- Conducted trade studies to determine material selection for critical and structural components of the launch vehicle.
- Validated design choices with FEA simulations of critical structural components and uniaxial compression tests of airframe.
- Documented test procedures and analyzed component performance to validate against design specifications.
- Led the manufacturing and launch of a subscale rocket as a critical test for full-scale vehicle performance, ensuring structural integrity and validating key design decisions for mission success parameters including apogee, stability, and recovery.
- Developed and implemented a dual-door payload retention system with custom-engineered shafts and hinging bulkheads, enabling reliable payload release through servos controlled via PWM. This design was validated through a full-scale flight.
- Defended the design of the rocket with 5 technical design reports as well as 3 presentations to a panel of NASA engineers.

NASA USLI Structures Associate Engineer **August 2023 – May 2024**

- Collaborated with the Structures Technical Lead to manage weekly sub-team meetings for approximately 10 members, ensuring efficient communication and task delegation. Assisted in the development and maintenance of a manufacturing schedule for both subscale and full-scale launch vehicle assemblies, optimizing workflow and meeting project deadlines.
- Validated the structural integrity and functionality of launch vehicle features using student designed testing methods.
- Designed, manufactured, and integrated a servo-controlled rack-and-pinion mechanism for the retention and release of the payload. Led validation of the mechanism using team derived testing methods to ensure its functionality and reliability.
- Programmed CAM toolpaths in Fusion 360 for the mechanism's mount, optimizing machining efficiency and precision.

Design Manufacturing Lab Teaching Assistant **January 2024 – Present**

- Manage over 100 students in refining and manufacturing air engines, ensuring safety and adherence to engineering standards.
- Mentor students in applying DFMA principles, and proper engineering documentation to optimize their designs.
- Guide and oversee the creation of precise, high-quality parts, ensuring their successful assembly and performance.
- Educate students on common industry standards and practices, relating these principles to their projects to enhance quality.
- Perform scheduled machine maintenance on manual mills and lathes in the shop to ensure their precision and quality.

Mechanical Engineering Design III Manufacturing Specialist **May 2025 – August 2025**

- Reviewed and approved technical drawings to ensure compliance with DFMA principles and industry manufacturing standards. Collaborated directly with part manufacturers and students to determine manufacturability of components.
- Guided students through iterative design improvements using DFMA methods for efficient and cost effective manufacturing.
- Held design reviews with students to align student deliverables with expectations and to ensure designs were manufacturable.
- Created a quality assurance guide along with manufacturing inspection records for the quality control of student parts.

PROJECTS

Air Engines **August 2023 – December 2023**

- Manufactured 4 dual-stroke air engines following engineering standards and the safe operation of manual mills and lathes.
- Used proper drawings and documentation to verify that each manufactured part met required specifications.
- Collaborated with a team of 4 to refine part drawings using DFMA and GD&T standards to ensure the engines' functionality.

Martian Rover Senior Design Project – Integration Engineer **August 2025 - Present**

- Designed motor mounts and motor integration components for a Martian rover senior design project.
- Performed first-principles analysis on drive shafts and mounts to validate strength and performance under expected loads.

SKILLS

Programming/Simulation: MATLAB, Python, Computer Aided Manufacturing (Fusion 360), Finite Element Analysis, OpenRocket
Software: Certifications in AutoCAD, Inventor, Revit, and SolidWorks. Proficient in Fusion 360, Ansys, Microsoft Office.
Manufacturing: Operation of CNC mills, manual mills and lathes, bandsaws, waterjet, 3D printing (FDM), DFMA, GD&T, ACE
Languages: Fluent in both Spanish and English