Jose Ascencio-Rojo

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Education

University of Central Florida **Orlando, FL**

Bachelor of Science in Mechanical Engineering *Expected Graduation: December 2027*

Skills and Certifications

Design & Software: Siemens NX, Teamcenter, GD&T (ASME Y14.5), SolidWorks, OpenRocket
Certifications: High-Power Rocketry Level 2 (Tripoli), SolidWorks (CSWA), AutoCAD User
Fabrication/Testing: Composites, 3D Printing, Laser Cutting, Soldering, Recovery Pyrotechnics
Languages: English (Fluent), Spanish (Fluent)

Experience

United Launch Alliance (ULA) **May 2026 - August 2026**

Centaur V Structures Design Intern *Decatur, AL*

- Led an engineering change for the ATZ LO2/LH2 plate bushing by revising drawing requirements to require post-press reaming when necessary, eliminating six recurring quality notifications and avoiding an estimated $30K–$60K in engineering rework costs.
- Redesigned an ECS screw for additive manufacturing by removing unnecessary design constraints and material, reducing manufacturing time by 2 days and contributing to $12,000 in cost savings per vehicle.
- Designed a flight-hardware bracket in Siemens NX for a new sequencing system on a future Centaur V mission, performing aerospace fastener grip-length calculations and applying GD&T.
- Developed and presented 5 engineering drawing changes affecting 9+ Centaur V drawings to a 5 member engineering review board, supporting hardware configuration and implementation.
- Improved manufacturability of upper stage MLI engine blankets by updating Siemens NX models with X-Form and Through Curve Mesh, eliminating routing conflicts encountered during technician installation.

Projects

L2 High Power Rocketry | *Project Manager* **June 2025 - August 2025**

- Designed, built, and launched a 74-inch, 7 lb rocket using SolidWorks and OpenRocket simulations, achieving a 2,470 ft apogee and earning Tripoli Level 2 certification with full recovery.
- Performed recovery and structural analyses, including aeroelastic flutter, black powder charge sizing, and parachute snatch force, establishing a 2.04 safety factor under flight loads.
- Designed and 3D-printed a custom avionics coupler and nosecone and integrated an Eggtimer flight computer for dual deployment, successfully deploying the drogue at apogee and main parachute at 800 ft.

Leadership / Extracurricular

Knights Experimental Rocketry (KXR) **January 2026 - Present**

Level 2 High Powered Rocketry Lead *University of Central Florida*

- Lead 15 students per semester through Level 2 high-power rocketry, covering dual-deployment design, OpenRocket simulations, hand calculations (drag, flutter), manufacturing, and ground testing.
- Lead design reviews and pre-flight checks for stability, recovery electronics, deployment systems, and manufacturing to ensure rockets meet Level 2 certification and safety requirements.

Society of Hispanic Professional Engineers (SHPE) **May 2025 - Present**

Professional Development Chair (2026) Conference Director (2025) *University of Central Florida*

- Lead professional development programming for a 200+ member SHPE chapter, hosting 7 workshops averaging 90+ attendees and coordinating 60+ resume reviews.
- Manage 7 directors across Conference, Resume, Internship, and ResearchSHPE roles to expand access to career, conference, and research opportunities.
- Managed preparation for 60 sponsored SHPE Conference attendees as Conference Director, with 87% of attendees securing at least one conference interview.

Mexican Student Association (MEXSA) **August 2024 - April 2026**

Vice-President (2025) Treasurer (2024) *University of Central Florida*

- Lead chapter operations and coordinate social and cultural events for 70+ members, collaborating with the executive board on event planning, logistics, and member engagement.