Winter 2025 HP

Jose Montalvo

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Summary

Thank you for reading this. Right now I am really excited about heat transfer and small component actuation. Id love to get anywhere near that to start my career after I graduate. I work hard I have fun with engineering but Im also a whole human being that loves people. Here are the catchy words that describe my experience... Mechanical Engineering student with a United States DoD Top Secret Clearance. Experienced in reliability engineering, mechanical systems, and failure analysis across aerospace and production environments. Strong foundation in root cause analysis, FMEA, component validation, and continuous improvement. Committed to enhancing system reliability and safety in high-performance aircraft systems.

Education

Oregon State University, Corvallis, OR
Bachelor of Science in Mechanical Engineering
Concentration in Aerospace Engineering
Expected Graduation: June 2026

Proficiencies

Reliability: Root Cause Analysis, FMEA, Fault Tree Analysis, Reliability Growth, Corrective Action Systems
Hardware: Fasteners, Inserts, Fluid Fittings, Structural Components
Software: OnShape, AutoCAD, SolidWorks, Siemens NX, MATLAB, Python, Thermal Desktop/ Ansys
Diagnostics: Signal Integrity, Oscilloscope Use, Statistical Trend Analysis
Methods: VSM, Kaizen, Engineering Documentation, Risk Mitigation Planning

Experience

Analog Devices — Mechanical Engineering Intern
July 2025 – September 2025, Beaverton, OR

- Gained exposure to multiple stages of the silicon wafer production process in a semiconductor fabrication environment.
- Shadowed cross-functional teams to understand equipment reliability and manufacturing workflows and defect root cause analysis.
- Conducted facility walkdowns to identify areas for mechanical system improvement.
- Supported documentation efforts related to tooling usage and process flow specific to the Lithography team for plasma etch.

The Boeing Company — Manufacturing Engineering Intern
June 2023 – December 2023, Renton, WA

- Conducted root cause and corrective action (BPSM) investigations to address recurring mechanical system failures.
- Supported reliability-focused production changes through technical reviews and VSM workshops.
- Collaborated with suppliers to evaluate substitute components and ensured compliance with reliability standards.

Oregon Tool Company — Manufacturing Engineering Intern
June 2024 – December 2024

- Developed and tested mechanical tooling using SolidWorks with emphasis on durability and repeatability.
- Conducted signal integrity testing to validate control system reliability under varying conditions.
- Supported implementation of design changes that reduced component failure rates across production lines. This is to include PLC and other various controlls work.

Springfield Resins – Arclin USA — Project Management Intern
July 2022 – October 2022

- Reviewed and modified mechanical infrastructure and CAD schematics for facility upgrades.
- Gathered supplier quotes and prepared Investment Requests (IRs) for structural and mechanical upgrades.

Projects

Capstone Project – Mechanical/Electrical System Prototype
Led the design and reliability testing of a hybrid mechanical-electrical system. Developed CAD models and injection mold designs focused on mechanical integrity and maintainability. Conducted multiple test cycles and FMEA evaluations. Prioritized component selection based on failure rate data and environmental stressors. Delivered validated prototype with full documentation.

Payload Containment Design – AIAA USLI Team
Designed modular payload systems using parametric CAD modeling; integrated 3D printing and thermal shielding. Participated in CPU debugging and avionics validation.

Propulsion Control Demo – AIAA APOP Team
Collaborated on turbine component design and programmed engine behavior using MATLAB for outreach demonstrations.

Teaching

Oregon State University — Undergraduate Teaching Assistant
2020 – Present

- Instructed over 2,700 students across engineering and physics labs. Supported lab setup and safety protocols.
- Evaluated lab reports, provided feedback, and facilitated student understanding of mechanical systems.

Affiliations

AIAA — Member, USLI & APOP Teams
Engineers Without Borders — CAD Design Contributor
Student Veteran Association — Peer Mentor and Member