Felipe J. Del Pozo

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EDUCATION

University of Illinois at Urbana-Champaign May 2026
Bachelor of Science in Aerospace Engineering GPA: 3.80/4.00

PROFESSIONAL EXPERIENCE

Aeromaster S.A - Mechanical Engineering Intern (Maintenance) June 1,2024 – June 30, 2024
Quito, Ecuador

- Supported maintenance and inspection of AW109 mechanical systems (transmission/ rear gearbox/landing gear), learning tolerance-critical assembly practices and safety procedures.
- Designed a disassembly/inspection work aid for a transmission clutch, reducing inspection time by ~1 hour through improved sequencing and clarity.
- Developed a cradle fixture for winch mount/dismount operations, reducing handling time by ~20 minutes and improving repeatability.
- Managed parts inventory and tool inspections, reinforcing attention to labeling, dimensional checks, and process discipline.

Aerialoop - Mechanical Engineering Intern (Hardware) July 1, 2024 - July 31, 2024
Quito, Ecuador

- Designed and integrated a PCB mounting bracket for a drone delivery aircraft, developing CAD models and 3D-printed components installed on the aircraft and used in operational manuals to illustrate assembly and integration procedures.
- Conducted drone delivery route simulations under varying wind conditions, collecting and analyzing operational data to support daily flight planning and performance assessment.
- Authored FAA-aligned safety documentation and functional hazard analyses, translating engineering intent into auditable operational requirements and procedures.

Course Assistant – AE 321: Mechanics of Aerospace Structures August 2025 – December 2025
Champaign, Illinois

- Grade weekly homework in elasticity, stress and strain analysis, and structural mechanics by applying tensor notation, Mohr's circle, and boundary value methods to evaluate solutions and provide feedback.
- Maintained consistency and clarity in grading across multiple submissions in coordination with the course's teaching assistants and professor

ACADEMIC PROJECTS

Aerospace System Design I August 2025 – December 2025

- Conducted a conceptual sizing study for a carrier-based strike aircraft using similarity analysis, constraint diagrams, and mission performance requirements.
- Built a parametric sizing spreadsheet to evaluate how wing area, aspect ratio, mission profile, thrust to weight ratio, and specific fuel consumption affected feasible design space and ramp weight.
- Authored a technical trade study that linked governing equations and assumptions to constraint and dimensional diagrams and interpreted sensitivity trends across propulsion and mission variations.

Aerospace Flight Mechanics January 2024 –May 2024

- Owned end-to-end mechanical design of a glider airframe and launch mechanism: defined geometry, interfaces, and assembly approach; produced Siemens NX CAD and drawings to communicate fit and build intent.
- Built and iterated prototypes across 20+ test launches, diagnosing failure modes (misalignment, structural weakness, repeatability issues) and implementing design changes to improve consistency and robustness.
- Delivered final competition configuration through controlled testing and configuration freeze; achieved 10.95 m mean range with 0.386 m deviation and 18.06 m max range.

Aerospace Computer-Aided Design January 2023 – May 2023

- Created fully dimensioned engineering drawings for the Timber X model aircraft, emphasizing build intent, datums, and interface dimensions to communicate manufacturing and assembly requirements.
- Built a full-scale Siemens NX assembly (parts + mates) and generated drawings/renders for documentation and design review.

SKILLS

Mechanical Design: Siemens NX (parts, assemblies, drawings), CATIA, engineering drawings, tolerance-critical assemblies
Prototyping & Manufacturing: mechanical prototyping, fixtures and work aids, assemblies and fit checks, additive manufacturing, DFM/DFA
Programming: Python, C++
Documentation & Compliance: FAA-aligned technical documentation, operational manuals, design notes, revision control
Languages: Spanish (native), English (fluent)