Dana Martinez Gonzalez

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Portfolio: **danapaolawork17-creator.github.io**

Profile

Mechanical Engineering student with hands-on experience in mechanical design, manufacturing, aerospace, and building systems. Skilled in CAD software and project coordination. Passionate about creating sustainable and innovative engineering solutions.

Education

California State University - Fresno, Lyles College of Engineering
Bachelor of Science in Mechanical Engineering | Minor in Aerospace Engineering
Expected Graduation: *Spring 2027 | GPA: 3.25*

Technical Skills

SolidWorks | AutoCAD | Revit | MATLAB | Microsoft Office Suite | CITIA | SketchUp | PTC Creo | ANSYS | Engineering Testing (MTS Universal Test Machine) | Siemens NX | FEA | CREO ProE | Python | Simulink | CFD | CNC/manual machining | C++ | Arduino

Work Experience & Research

Rotorcraft Aeromechanics Intern, NASA Ames Research Center, Moffett Field, CA
June 2025 – August 2025

- Developed a Python-based rotor power calculator with a custom GUI to evaluate rotorcraft performance using interpolated CAMRAD II Power Coefficient tables.
- Automated airfoil slicing from 3D rotor blade geometry in Rhino using rhinoscriptsyntax for aerodynamic analysis.
- Supported research on next-gen vertical flight vehicles, including UAVs, tiltrotors, and Mars Helicopter systems.
- Applied CFD and aeroelastic tools to assess vehicle performance and participated in wind tunnel testing.
- Investigated noise, vibration, and ride quality effects to inform design for urban air mobility and planetary missions.

Engineering Intern, Duncan Enterprises (iLoveToCreate), Fresno, CA
December 2023 – May 2025

- Created packaging specifications and engineering drawings for new product lines using SolidWorks and ArtiosCAD.
- Conducted time studies and data analysis to support production improvements and efficiency reporting.
- Wrote standardized packaging instructions and collaborated closely with the Vice President of Operations and Quality Engineering Manager.

Projects

Chassis and Propulsion Team Member, MATE ROV Competition, California State University, Fresno
November 2025 – May 2026

- Designed and evaluated a six thruster propulsion layout to enable full 6 DOF control and station keeping in flowing water.
- Contributed to chassis layout, thruster placement, and shroud considerations to improve stability, maneuverability, and safety.
- Developed tether routing and strain relief concepts to transfer loads into the chassis and protect onboard electronics.

Structures Mechanical Design Team Member, NASA Student Launch Competition, California State University, Fresno
October 2024 – April 2025

- Contributed to the mechanical design of rocket components using SolidWorks and conducted simulations for launch systems.
- Worked collaboratively with a multidisciplinary team to ensure design compliance with NASA competition guidelines.
- Assisted in manufacturing, testing, and assembly of mechanical structures for the launch vehicle.

Leadership and Activities

- Society of Women Engineers (SWE): Professional Development
- Society of Hispanic Professional Engineers (SHPE): Secretary
- American Institute of Aeronautics and Astronautics (AIAA): Member
- Ars Vallis Ingenium (AVI) Robotics: Propulsion and Chassis