Dana Martinez Gonzalez
(559) 630-2682 | danapaolawork17@gmail.com
Portfolio: **danapaolawork17-creator.github.io**

Profile

Mechanical Engineering student with hands-on experience in design and aerospace, skilled in CAD and project coordination, with a strong interest in sustainable 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:*** *3.52*

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

Aerodynamics Research Lead – Soil Drilling UAV Project, Fresno State University, Fresno, CA
January 2026 – Present

- Leading aerodynamics research to evaluate hexacopter and octocopter configurations, focusing on efficiency, stability, force requirements, and cost tradeoffs.
- Using SolidWorks and FEA to develop conceptual layouts and estimate thrust loads, structural forces, and stability margins during hover and drilling operations.
- Conducting trade studies using existing industrial UAV platforms as benchmarks and delivering data driven design recommendations.

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 using interpolated CAMRAD II power coefficient tables to evaluate rotorcraft performance.
- Automated airfoil slicing from 3D rotor blade geometry in Rhino using rhinoscriptsyntax to support aerodynamic analysis workflows.
- Supported research on next generation vertical flight vehicles by applying CFD, aeroelastic analysis, and wind tunnel testing to assess performance, noise, vibration, and ride quality.

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 – Present

- 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