Jalen Cervantes

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My Key Qualifications

- **U.S. person** (citizen), eligible for export-controlled hardware and data access.
- Builds **3D models, drawings, and assemblies** in SolidWorks daily at Ursa Major, including 14 drawing updates released across 3 propulsion assemblies in one change cycle.
- First-pass **thermal and structural analysis** in MATLAB and ANSYS at Ursa Major, catching 2 support locations that exceeded allowable temperature assumptions before fabrication.
- Test support on live propulsion hardware: prepped **9 instrumentation channels** for hot-fire testing and cut post-test reporting from 3 days to 2 by standardizing the report template.
- CubeSat structures capstone in **Siemens NX and NASTRAN**, cutting predicted structural mass 11% while holding a 1.25 safety factor against launch loads.
- **Thermal vacuum exposure** from a campus lab fixture project that trimmed avionics board setup from 45 minutes to 28 minutes across repeat runs.
- Coursework spanning **structures, thermodynamics, fluid mechanics, and orbital mechanics** from a B.S. in Aerospace Engineering at Cal Poly San Luis Obispo.

Experience

Aerospace Engineer I — **Ursa Major**, US rocket propulsion manufacturer for launch and hypersonics programs

Nov 2025 – Present · 1 yr

- Supports mechanical design, first-pass analysis, and development testing for liquid rocket engine hardware in a production-focused engineering team.
- Released 14 drawing updates across 3 assemblies in one release cycle, revising SolidWorks models for injector and feed-system brackets and routing changes through configuration-controlled engineering change requests.
- Performed first-pass thermal and structural checks on test hardware supports using MATLAB hand-calculation comparison and ANSYS FEA with documented loads and boundary conditions, identifying 2 locations exceeding allowable temperature assumptions before fabrication.
- Assisted with hot-fire test preparation and post-test data review for propulsion components, preparing 9 instrumentation channels and cutting reporting turnaround from 3 days to 2 days for one test series.

Education

- **California Polytechnic State University, San Luis Obispo** — Bachelor of Science in Aerospace Engineering · 2021 – 2025 · Relevant coursework: Aircraft Structures, Orbital Mechanics, Thermodynamics, Fluid Mechanics, Experimental Methods in Aerospace Engineering

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Projects

- **CubeSat Primary Structure Capstone**
  Designed and analyzed an aluminum CubeSat primary structure for a university mission concept, targeting launch-load survival and mass constraints. Reduced predicted structural mass by 11% while meeting a 1.25 safety factor in final analysis.
  Tech: Siemens NX, NASTRAN, MATLAB
- **Thermal Vacuum Test Fixture for Campus Lab**
  Developed a fixture and test procedure for a campus aerospace lab to hold and instrument small avionics boards during benchtop thermal vacuum evaluations. Cut setup time from 45 minutes to 28 minutes during repeat lab runs.
  Tech: SolidWorks, Python, GD&T

Skills

- **CAD & Design:** SolidWorks, Siemens NX, GD&T
- **Analysis:** MATLAB, Python, ANSYS, NASTRAN, Structural Analysis, Thermal Analysis
- **Test & Engineering Tools:** Test Engineering, Technical Documentation, Git, Jira