

Kevin Quintana

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Education

California Polytechnic State University San Luis Obispo (Cal Poly)

Expected June 2027

Bachelor of Science in Aerospace Engineering

Experience

Combustion Chamber Co-Lead, SLO Propulsion Technologies (SPT)

Sept. 2024 – Present

- Co-leading the design and integration of a 400-lbf bipropellant combustion chamber for BP-1, a liquid rocket targeting an apogee of 32,000 ft (10km) by March 2025
- Performed multiple simulations in ANSYS to analyze thermal performance under launch conditions
- Conducted stress analysis and bolt calculations, achieving a high Margin of Safety for launch reliability
- Created detailed CAD assemblies in SolidWorks for precise integration with other subsystems
- Manually manufacturing system components, ensuring tolerances are within ± 0.010 "

Injector Member for Liquid Rocket Project, Cal Poly Space Systems (CPSS) Sept. 2024 – Nov. 2024

- Assisted with the manufacturing of the injector plate for a 50-lbf rocket engine using manual mills, ensuring parts were within tight tolerances
- Assisted with cold flow and static testing to validate and ensure compliance with design requirements

Tiny Rocket Project Owner, SLO Propulsion Technologies (SPT)

Nov. 2023 – June 2024

- Designed and manufactured a 15-lbf bipropellant liquid rocket engine for static testing, applying hand calculations and RPA simulations for performance evaluation and design iterations
- Created multiple injector plate designs to balance manufacturing simplicity with performance requirements

Aerodynamics for Solid Rocket Project, Cal Poly Space Systems (CPSS)

Sept. 2023 – June 2024

- Utilized SolidWorks and MATLAB to improve apogee by 27% and velocity margin of safety by 57%
- Led design and manufacturing of 3D-printed prototypes and composite molds
- Manufactured composite, metal, and wooden parts for rocket using manual manufacturing techniques

Additional Projects

Regenerative Cooling Liquid Rocket Engine, Personal Project

Dec. 2024 – Present

- Designing a regeneratively cooled ~200-lbf bipropellant rocket engine using Ethanol and Nitrous Oxide, with a focus on optimizing cooling channel geometry for thermal management
- Researching cooling strategies and performing design iterations to prepare for ANSYS CFD and FEA simulations and a 3D-printed prototype for visualization

Skills

Software: SolidWorks, Rocket Propulsion Analysis (RPA), ANSYS, MATLAB, OpenRocket, Microsoft Office

Manufacturing: Manual Mill, Manual Lathe, Welding, Composites, Casting, 3D Printing, Shop Tools

Soft: Teamwork, Enthusiastic, Collaborative, Curious, Adaptable, Problem-Solver, Detail-Oriented

Relevant Coursework

Completed: Aerospace Fundamentals (Aero 121), Intro. to Aerospace Design (Aero 215), Aerospace Systems Engineering and Integration (Aero 220), Intro. to Design and Manufacturing (IME 144), Engineering Statics (ME 211), Materials Engineering (MATE 210), Electric Circuit Theory (EE 201)

In Progress: Aerospace Thermodynamics (Aero 299), Aerospace Engineering Analysis (Aero 300), Engineering Dynamics (ME 212), Mechanics of Materials I and II (CE 204 and CE 207)