

Gabriel Fonseca

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LinkedIn | GitHub | Website

Education

University of California, Berkeley

Expected May 2026

Bachelor of Science in Mechanical Engineering

Relevant Coursework: Solid and Dynamic Mechanics, Thermodynamics, Manufacturing and Design, Composite Materials, 3D Modeling, MatLab, Data Structures

Cathedral High School

Graduated May 2022

Saul Bass Award in Computer and Media Communications

Work and Extracurricular Experience

Undergrad Research – Theoretical & Applied Fluid Dynamics Laboratory

Berkeley, CA, 2025

- Designed and assembled electrical components for Ocean Swarm Drones

Assistant Machine Specialist – Etcheverry Machine Shop

Berkeley, CA, 2025

- Work alongside professional machinists to instruct and assist students with various machinery.
- Perform routine machine maintenance and ensure proper machine operation.

Space Enterprise @ Berkeley

– Design and Manufacturing Engineer

Berkeley, CA, 2024 – Present

- Used Solidworks to design components, such as thrust plate.
- Fabricate parts and components using both subtractive and additive manufacturing methods.

– Avionics Engineer

Berkeley, CA, 2022 – 2024

- Integrated Data Acquisition Board for LOX + Ethanol engine; achieved stable hot-fire tests.
- Conducted cryogenic flow tests, analyzing data to improve reliability in system designs.

Projects

FIRST Robotics Competition Robot

2020 – 2021

- Machined structural components using band saw and hand power tools.
- Programmed an Arduino to control the robot's wheel system, enabling remote-controlled movement.

Wind Turbine Design and Testing

2023

- Designed and 3D-printed a wind turbine using SolidWorks, optimizing airfoil geometry.
- Tested in a wind tunnel, gathering data on efficiency and refined blade design iteratively

Skills

- **Engineering Software:** SolidWorks, MATLAB, Python, GD&T application.
- **Manufacturing Processes:** Precision machining, mechanical assembly, additive manufacturing.
- **Testing and Analysis:** Structural analysis, cryogenic systems testing.

Additional Interests

- **Tech Repair:** Freelanced electronics repair, gaining troubleshooting and customer service experience.
- **Athletics:** Played volleyball, water polo, track, and basketball, enjoying teamwork and staying active.
- **Art:** Sketched and painted various pieces, come from a family of professional artists.