# KARA GAISER

971-336-2758 | gaiserkara@berkeley.edu | LinkedIn | Website | U.S. Citizen

4th-Year MechE major, concentration in Aerospace Engineering. Interested in test/mechanical engineering, integration, and ECLSS.

## EDUCATION

**University of California, Berkeley** **Graduation:** May 2026

B.S. Mechanical Engineering, Concentration in Aerospace Engineering | Certificates: Entrepreneurship & Leadership (Changemaker)

**Awards:** Brooke Owens Fellow (% 2025), General Motors Mechanical Engineering Scholarship, The Mildred Jordan Sharp Scholarship, The Leadership Award Scholarship, 2025 Space Gala Scholarship, 2x ISEF Grand Award Winner

---

## SKILLS

**Hardware:** 3D Printing (Markforged X7, Form3 SLA, Prusa), Lathe, Mill, Drill Press, Fablight, GD&T Drawings, P&IDs, Soldering

**Software:** Siemens NX, Teamcenter, Solidworks, Ansys, Manufacturo, DAQ softwares, MATLAB, Python, Arduino C++, R, SQL, Git

**Professional:** Microsoft Office, Google Suite, Confluence/Jira, Smartsheet, LucidChart, LaTeX, GitHub, VS Code, Jupyter Notebook

**Certifications:** HAM Radio Technician License (FCC), Principles of Biochemistry (15 weeks, Harvard University)

---

## EXPERIENCE

### *VAST Space*

**Environmental Control and Life Support Systems (ECLSS) Engineering Intern** **Summer 2025**

- Planned ATP/QTP test operations for flight, qual, and spare parts on ECLSS trace contamination control subsystem, LiOH system
- Owned design and development of Haven-1 safety-critical air revitalization ground support equipment hardware for flight vehicle, including development testing, defining requirements, DFM, random vibe structural and fastener analysis, procurement and work orders, integration, timeline and process plans, and releasing part and assembly drawings. Completed PDR and CDR

**Life Support Systems Engineering (ECLSS) Intern (Part-Time)** **August - December 2024**

- Spearheaded ECLSS air revitalization system structural analysis via Ansys including material strength, stability, and fatigue
- Wrote multi-use Python scripts for data post-processing and visualization of trace contamination test-bed, collaborated with Ground Support Software team to integrate algorithms into company-wide DAQ system

**Life Support Systems Engineering (ECLSS) Intern** **Summer 2024**

- Owned development, test procedures, and data acquisition for 2x airflow test rigs for Haven-1. Integrated redundant anemometers and orifice sensors to improve flow measurements and characterize primary cabin fans. Completed 2 PDRs and 2 TRRs
- Wrote Python script to scan fan and pump flow data, extract sensor values, and develop useful visuals, saving hours of hand-calcs
- Hand-made shielded wire harness and test apparatus for EMI/EMC radiated emissions and “conducted emissions” testing
- Ran bakeout procedures for oxidizer particulate samples and managed installation of VOC/weather monitors in testing facilities
- Designed vibration testing fixtures for ECLSS components using Siemens NX, working closely with cross-functional teams
- Managed airflow test rig work orders and procured custom test setup hardware from vendors for technician use

### *Crimson Education, Indigo Research, ScienceFair.io*

**Competitive Science Fair Coach** **Present**

- Coach for 20+ high school students on research methods, writing & publishing, elevator pitches, and public speaking for competitions
- Selected presenter for Winter Bootcamp 2025 and 3x 2025 Indigo Research Masterclass events, educating students on science fairs

### *NASA Jet Propulsion Laboratory*

**Instrument Electronics Systems Integration and Test Engineering Intern** **Summer 2023**

**JPL Training:** Cleanroom, PPE, JPL Critical Item Handling, ESD Safety, Connector Mate & De-Mate, HAZCOM, Hazardous Waste Generation, Intro to Cognizant Engineering, Cognizant Engineer Additive Manufacturing, Cognizant Engineer Materials & Process

- Co-led testing procedures for CRISTAL power control system, and conducted electrical testing on Sentinel-2 EGSE
- Oversaw TVAC environmental testing and contamination control for Europa Clipper mechanical supports
- Procured 10+ PCB and 100+ electronic components, compared options from multiple vendors, and found alternates when needed
- Worked extensively in ISO 6/7 cleanrooms, handling critical flight hardware, following ESD and contamination safety protocols
- Designed avionics and ground support enclosures in Solidworks for Carbon Plume Mapper satellite and airborne project SMICES

## ACADEMIC PUBLICATIONS

*Engineering a Low Environmental Impact Oxygen Generation System to Create a Breathable Internal Habitat on Mars* **2018 - 2022**

https://arc.aiaa.org/doi/10.2514/6.2022-0328 | Published in AIAA SciTech 2022 Journal, solo-author | Website

- Engineered simulated Mars habitat in lab, built and programmed autonomous data-collecting microcontrollers for 4-year project
- Received 17 total science competition awards, including 3rd- and 4th-place internationally at Regeneron ISEF

*Constellation-as-a-Service: Redefining Business Models for Scalable and Sustainable Space Access in the New Space Economy* **2025**

https://arc.aiaa.org/doi/10.2514/6.2025-4111 | Published in AIAA Aviation x ASCEND 2025 Journal, co-author

**CLUB INVOLVEMENT:** Association of Women in Aerospace, AIAA Chapter, Space Enterprise@Berkeley, Women in Weightlifting