

Lily Oglesby

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EDUCATION

University of Southern California

Master of Business Research, Marshall School of Business

Los Angeles, CA

Aug 2025 – Dec 2026

University of California, Berkeley

Bachelor of Arts in Astrophysics and Data Science

Berkeley, CA

Aug 2021 – May 2025

RESEARCH EXPERIENCE

Space Sciences Laboratory, UC Berkeley

Undergraduate Researcher

Berkeley, CA

Aug 2021 – May 2025

- **Satellite Data Analysis:** Performed time-series preprocessing, statistical filtering, and exploratory analysis on three years of ICON satellite data to detect ionospheric signatures of geomagnetic storms.
- **Scientific Programming:** Developed reusable Python workflows to filter, analyze, and visualize satellite data and communicate findings to collaborators.

Institute for Astronomy, University of Hawaii at Manoa

Research Intern

Honolulu, HI

Jun 2024 – Aug 2024

- **Machine Learning:** Applied an unsupervised anomaly-detection framework to $\approx 120,000$ telescope images and used a convolutional neural network to classify galaxy morphology and identify scientifically valuable observations.
- **Computational Efficiency:** Used GPU parallelization to accelerate large-scale astronomical image processing and model execution.

TEACHING AND MENTORING EXPERIENCE

USC DSO Research Experiences for Undergraduates Program

Graduate Student Instructor and Mentor

Los Angeles, CA

Jun 2026 – Present

- **Research Instruction:** Led sessions on effective and responsible uses of artificial intelligence in academic research workflows.
- **Graduate-School Preparation:** Advised students on applications, research statements, and presenting their technical experience.

Introduction to General Astronomy, UC Berkeley

Reader and Grader

Berkeley, CA

Aug 2022 – Dec 2024

- **Course Assessment:** Evaluated assignments across multiple semesters and provided clear feedback on foundational physics and astronomy concepts.

Mauna Kea Scholars Program, University of Hawaii

Research Mentor

Honolulu, HI

Jun 2024 – Aug 2024

- **Research Mentorship:** Mentored a high school student in developing an astronomy project using Mauna Kea telescope observations.
- **Technical Training:** Taught Linux, telescope-data analysis, and ASTRONOMALY and guided the student's final research presentation.

Python Programming in Astronomy, UC Berkeley

Reader, Grader, and Teaching Assistant

Berkeley, CA

Jun 2023 – Aug 2023

- **Programming Instruction:** Supported students through office hours and evaluated Python-based astronomy assignments for correctness and clarity.

OUTREACH AND LEADERSHIP

Royal Astronomical Society of Hawaii

Volunteer Outreach Coordinator

Honolulu, HI

Jun 2024 – Aug 2024

- **Community Engagement:** Organized public stargazing events and led astronomy education incorporating Hawaiian perspectives on the night sky.

NASA Astrobiology Outreach, UC Riverside

Project Leader

Riverside, CA

Aug 2017 – Jan 2020

- **STEM Education:** Led hands-on astrobiology programs for elementary students and public events and trained outreach volunteers.

SKILLS

Programming and Data Science: Python, SQL, Java, JavaScript, HTML, Linux, Git, LaTeX, GPU computing, statistical analysis, machine learning, causal inference, EDA, and data visualization

Research and Leadership: Experimental design, technical writing, literature review, research presentations, curriculum development, mentorship, and science communication