Evan Imata

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EDUCATION

University of California, Berkeley **Aug 2021 — May 2023**
Bachelor's in Astrophysics with Honors Berkeley, CA
Relevant Coursework: Quantum Mechanics, Thermal Physics and Statistical Mechanics, Data Science Laboratory, Structure and Interpretation of Computer Programs, Planetary Astrophysics, Relativistic Astrophysics and Cosmology, Nuclear Technology.

University of Hawai'i at Manoa **Aug 2019 — May 2021**
Non-Degree Seeking Honolulu, HI
Relevant Coursework: Programming for Engineers, General Physics (I-III), General Chemistry (I-II), Calculus (I-IV), Linear Algebra and Differential Equations, Atmospheric Physics and Dynamics.

EXPERIENCE

NASA Jet Propulsion Laboratory | Physics and Astronomy Research Intern **May 2024 — Present**
- Developed Python software for the Nebulous project, a collaboration focused on evolutionary algorithms for physics and space-science hardware design.
- Leading a project to model antennas in XFdtd with electrical feed simulation, gain pattern analysis, and design optimization.
- Quantified atmospheric drag on spacecraft designs using the VECTOR simulation software. Drag was implemented as a cost function to generate cubesat designs for very low earth orbit (VLEO) in the ECLIPSE framework [1].

Raytheon Technologies | Systems Test Engineer **Oct 2023 — Jun 2025**
- Executed radar test procedures in lab and field (domestic and international) for systems verification and validation process.
- Developed Python, MATLAB, Fortran, Linux-based tools and GUIs to analyze radar system performance.
- Delivered technical presentations to stakeholders and customers preceding radar system field deployment.

Berkeley Space Sciences Laboratory | Data Analyst **May 2022 — Jun 2023**
- Conducted research on interactions between solar energetic particles and lunar regolith using time-series databases from the NASA Advanced Composition Explorer and Geotail missions. Queried datasets using the HAPIClient API in Python.
- Standardized New Horizons optical image datasets for a NASA Planetary Data System submission with Python.
- Simulated spacecraft orbits by utilizing data science libraries such as Pandas, Astropy, and Matplotlib.

Undergraduate Lab at Berkeley | Exoplanet Research Mentee **Sep 2021 — May 2022**
- Operated and collected optical images with the Leuschner Observatory to study and confirm extrasolar planets.
- Performed exoplanet transit research and analysis using Python to parse the MIT TESS database.
- Co-authored research proposals and symposium presentations for exoplanet observation research results [3].

UC Berkeley | Data Science Laboratory Student **Aug 2022 — Dec 2022**
- Designed convolutional neural network architectures with Tensorflow Keras to classify optical image datasets.
- Developed prediction models for star characteristics with Bayesian inference and Markov-Chain Monte Carlo methods.

PUBLICATIONS & CONFERENCES

[1] Foreback, Max, et al. "Eclipse: An Evolutionary Computation Library for Instrumentation Prototyping in Scientific Engineering." arXiv:2601.05098, 13 Jan. 2026.

[2] "Solar energetic particle track-production rates at 1 AU: Comparing in situ particle fluxes with lunar sample-derived track densities." The Astrophysical Journal Letters, vol. 958, no. 2, 29 Nov. 2023, doi.org/10.3847/2041-8213/ad0cf6.

[3] Kaplan, Derek, et al. Observing and Obtaining a Light Curve from a Potential Transiting Exoplanet, ulab.studentorg.berkeley.edu/static/doc/posters/s224.pdf.

[4] American Physical Society Global Physics Summit, 2026: “Evolving 3D Antenna Models Via Genetic Algorithms”.

[5] Foreback, Max, et al. “Eclipse: An Evolutionary Computation Library for Instrumentation Prototyping in Scientific Engineering.” Genetic and Evolutionary Computation Conference, submitted Jan 26, 2026.

[6] Rolla, Julie, et al. “Evolving spacecraft models optimized for VLEO using primitive shapes; heuristic study of atmospheric particle effects on spacecraft surface features.” NASA Interplanetary Network Progress Report, submitted Feb. 2026, Live February 15, 2026.

[7] NASA Interplanetary Network Progress Report, “Evolving multifeed antennas and antennas with reflectors”, expected May 15, 2026.

SKILLS

- **Programming Languages:** Experienced in Python and MATLAB. Proficient in JavaScript. Familiar with Java, C, Fortran.
- **3-D Modeling:** Proficient in Pymeshlab and Blender. Familiar with XFdtd.
- **Data Science:** Experienced in Matplotlib, NumPy, Pandas. Familiar with Tensorflow, SQL, ADQL, Astropy, PyMC.
- **Web Development:** Experienced in HTML, CSS, and Python Flask.
- **Microsoft Suite:** Experienced in Excel, PowerPoint, Word.
- **Other Technical Skills:** Experienced in Git, Github, Regex, LaTeX, Linux, Bash, PowerShell.

LEADERSHIP & OUTREACH

The Coder School | Code Coach **Aug 2021 — Present**
- Taught coding concepts to K-12 students in Python, Java, and JavaScript.
- Developed full-stack web applications using Python Flask framework and object-oriented games with Pygame.

UC Berkeley Residential Life | Resident Assistant **Jul 2022 — May 2023**
- Organized and implemented activities to build community in campus housing.
- Responded to on-campus emergencies and ensured student safety.

University of Hawai’i at Manoa | Outreach Learning Assistant **Aug 2020 — Jun 2021**
- Spearheaded a virtual STEM outreach tutoring program for K-12 students in Hawaiian homeless shelters.
- Managed communications with homeless shelters; coordinated science events and workshops.

AWARDS & RECOGNITIONS

- Graduation in Astrophysics with Honors (2023)
- USRA 2021 Distinguished Undergraduate Award
- University of Hawaii at Manoa Academic Merit Scholarship (2019)