Ian C. Weaver, **Ph.D.**

Education · Software · Outreach

San Francisco, CA, USA

+1 202 643 3163 | weaveric@gmail.com | icweaver.github.io | icweaver | icweaver

Work Experience

Astronomer and Education Program Lead

2023 Aug - Present

SETI - Unistellar [link] *San Francisco, CA*

- Director of UCAN program, providing free telescopes and educational material to community colleges nationwide.
- Host star parties in national parks to increase public engagement in astronomy.

Tutor Coordinator and Administrative Assistant

2022 May - Present

Onaketa *Oakland, CA*

- Coordinate tutor-student matching, provide administrative support, and contribute to growth & brand development.
- Provide free online tutoring and mentoring support for high school students from underrepresented backgrounds in STEM [onaketa.org].
- Create custom study materials for students and communicated learning outcomes and progress reports to parents/guardians.

Graduate Student Researcher

2016 Sep - 2022 May

The Center for Astrophysics | Harvard & Smithsonian (CfA) *Cambridge, MA*

- Provided spectroscopic time-series observations and follow-up atmospheric analysis for an underrepresented class of exoplanet.
- Utilized high performance computing facilities and schedulers (Torque/PBS, SGE, slurm) via ssh and the command line on different Linux operating systems.
- Taught/mentored several undergraduate courses in Astronomy and received multiple teaching awards.
- Operated and maintained the 0.4 meter Clay Telescope atop the Harvard University Science Center.

Course Instructor

2017 Jun - 2019 Sep

Banneker Institute *Cambridge, MA*

- Collaborated in the design and execution of a novel summer astronomy workshop through the ISEE Professional Development Program geared towards underrepresented students in STEM.
- Taught 20+ class size emphasizing hands-on and inquiry based learning.undergraduate and local community.

Projects

Contributor and member of the Julia astronomy organization

2020 - Present

JuliaAstro [link] *San Francisco, CA*

- Designed the Keplerian orbit capabilities for the transit modeling package, Transits.jl [link], which uses automatic unit and integration testing via GitHub Actions, supports Python interoperability, and produces competitive benchmark performance.
- Implemented several dust extinction models for the interstellar medium observations package DustExtinction.jl [link], which provides first-class support for measurements containing units and estimated uncertainties.

Python implementation for new algorithm estimating MCMC uncertainty

Fall 2019

Team member, Graduate course final project [link] *San Francisco, CA*

- Addressed limitations in current definition of the $\hat{R}$ statistic by implementing a new algorithm proposed by Veharti et al. (2019).
- Packaged this deliverable as a set of Jupyter notebooks, including comprehensive documentation, example usage, and sample figures with associated npy and pickle data sets.

Python package for differential equation solving, powered by automatic differentiation

Fall 2018

Team member, Graduate course final project [link] *San Francisco, CA*

- Designed and developed a numerical integration Python package, and demonstrated its usage in fields ranging from Astronomy to Ecology.
- Deployed extensive documentation via ReadTheDocs.io, unit testing with pytest, and bounded registration on PyPI for the duration of the course.

Education

Doctor of Philosophy (Ph.D.) in Astronomy, Harvard University, Graduate School of Arts and Sciences *2020 Jun - 2022 May*

Master of Arts (AM) in Astronomy, Harvard University, Graduate School of Arts and Sciences *2016 Sep - 2020 May*

Bachelor of Science (BS) in Astronomy, UC Santa Cruz, Division of Physical and Biological Sciences *2012 Sep - 2016 Jun*

Activities and Outreach

HarvardDesigned Graduate Crew Team *2016 - 2022*

Co-Director of science outreach program Open Labs at Harvard (OLAH) [link] *2016 - 2022*

Eagle Scout #103, Troop 255 *2008 - 2012*