Kevin Caleb Eades

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Github: https://github.com/kceades   Website: https://kceades.github.io
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Education

University of California, Berkeley: **Physics M.S.**   Expected: May 2018
Harvey Mudd College: **Physics B.S. with Honor and Distinction**   Received: June 2016
- Concentration: Mathematical Physics
- GPA -- 3.7; Dean's List -- all semesters; Harvey S. Mudd Scholar; Alfred B. Focke Award

Green River Community College: **A.A.**   Received: June 2012
- GPA -- 3.97; Physics Department Award; Math Learning Center Tutor Award

Tahoma Senior High School: High School Diploma   Received: June 2012
- GPA -- 4.0; Rank -- 1 of 563; National Merit Finalist and Scholarship Winner; Edmund Maxwell Scholar

Skills

Subjects: Physics, Mathematics, Statistics (intermediate), Computer Science (intermediate)
Coding: Python, Matlab, LaTex, HTML/CSS/JavaScript, SQL, C++ (basic), Java (basic)

Projects and Research

Supernova Cosmology   2017-present
- Wrote a classifier combining neural net, k-nearest neighbors, and random forest algorithms.
- In Python, wrote web scrapers to gather public domain supernova data; developed and implemented algorithms to process the large-scale data efficiently and accurately.
- Wrote models using data reduction methods such as expectation-maximization Factor Analysis that explained variance below the level of the data uncertainty, well above the ability of current literature.

Laser Driven Fusion   2013-2016
- Innovated techniques for delivering nanospheres to a micron-scale focus of a terawatt, femtosecond pulsed laser to study a proposed heating mechanism for stochastic heating, a vital step in self-sustained fusion.
- In Matlab, wrote first principle probabilistic and Monte Carlo simulation models for characterizing the flight time of the polystyrene nanospheres after ablation via a pulsed laser at transparent wavelengths.
- Completed robust experimental work, collecting and analyzing nanosphere flight data to compare to the models.
- Thesis: https://github.com/kceades/ugrad_thesis/blob/master/SeniorThesis_CalebEades.pdf

Work Experience

Graduate Student Instructor -- University of California, Berkeley   2016-present
 Created and employed innovative lesson plans for discussions and labs; wrote and distributed a basic course website with tailored problems and solutions; proctored and graded exams; 10 hrs face time/wk

Academic Excellence Tutor -- Harvey Mudd College   2014-2016
 Tutored freshmen and sophomores taking core physics courses in a drop-in setting; delivered mini-lectures to groups on the fly; prepared and gave thorough, comprehensive exam review sessions

Homework Hotline Tutor -- Harvey Mudd College   2013-2016
 Over the phone tutor for students from underrepresented or underprivileged school districts in grades 4-12

Significant other work experience including:
 Soccer referee; private tutor (math, physics, english); shoe salesman; maintenance worker; office assistant