Teddy. **Rendahl**

Engineer · Python Developer · Physicist

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Experience

SLAC National Accelerator Laboratory — *Menlo Park, CA*

Science and Engineering Associate — *Jun. 2015 - Present*

- Incorporated a wide variety of instrumentation into the distributed infrastructure of the accelerator
- Led teams that automated scientific processes within the lab
- Developed a platform to display streaming controls system data interfaces for vital scientific instrumentation
- Modernized Python deployment tools including migrating older repositories to GitHub and other Continuous Integration services

Astrophysics Department at UCSC — *Santa Cruz, CA*

Undergraduate Research, Astrophysics Department — *July 2014 - Aug 2015*

- Developed a model that predicted the spectrum emitted by young stellar populations, and the amount this emission would vary over the course a specified period of time
- Optimized code to make efficient use of campus computing clusters
- Wrote an undergraduate thesis and later contributed to a published scientific paper

Education

Awards

2014 **Dean's Undergraduate Research Award**, *UC Santa Cruz*

Degree

University of California Santa Cruz — *Santa Cruz, CA*

Bachelor of Science in Applied Physics — *Sept 2010 - June 2014*

- Diverse coursework in Electrical Engineering, Computer Science and Physics
- Twice received Dean's Honors

Skills

Python	CONDA, pytest, NumPy, Pandas, matplotlib, SciPy, Jupyter
Other Software	PLC Programming, Distributed Systems, Git, Continuous Integration, Linux, Robotics
Domains of Interest	Automation, Data Visualization, Modelling, and Graphical User Interfaces

Presentations

Sept. 2018	**LCLS-II Beamline Controls**, Overview of User Experience Improvements at LCLS	*LCLS Users Meeting*
Jun. 2018	**Typhon**, Automated Generation of GUIs for Scientific Instrumentation	*EPICS Collaboration*
Oct. 2017	**Skywalker**, Automated Beam Delivery at LCLS	*ICALEPCS*
Oct. 2016	**PyDM**, PyQt-based Display Manager for EPICS	*EPICS Collaboration*

Publications

SLUG - Stochastically Lighting Up Galaxies III

UC Santa Cruz

A Suite of Tools for Simulated Photometry Spectroscopy Stochastic Stellar Populations

Dec. 2013 - Aug. 2014

- Helped write and document a large scientific Python codebase capable of created accurate simulations of young stellar populations.
- Received Undergraduate Research Award for work done for this publication and related thesis work.

Se-SAD Serial Femtosecond Crystallography

Linear Coherent Light Source

Datasets from Selnobiotinyl-Streptavidin

Dec. 2016 - Aug. 2017

- Designed and deployed hardware and software for setup of experiment.
- This included the timing system capable of coordinating X-Ray and visible light laser sources on a femtosecond time scale