# Teddy. **Rendahl**


Engineer · Python Developer · Physicist

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## Experience

### SLAC National Accelerator Laboratory — *Menlo Park, CA*

User Experience Lead Engineer — *Dec. 2017 - Present*

- Collected and synthesized usability requirements from scientific, engineering and operational groups at SLAC
- Developed a platform to display streaming controls system data from a multitude of different data sources
- Created a schema for the creation, deployment, and management of hundreds of APIs and graphical user interfaces for vital scientific instrumentation

### SLAC National Accelerator Laboratory — *Menlo Park, CA*

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

- Led teams that automated scientific processes within the lab
- Modernized Python deployment tools including migrating older repositories to GitHub and other Continuous Integration services
- Worked closely with scientists and engineers to deploy hundreds of sensitive scientific instruments in compressed time frames
- Managed Python APIs and GUIs for experimental operations and data observation

### 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

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|---|---|
| **Python** | PyQt, CONDA, NumPy, Pandas, matplotlib, SciPy, Jupyter |
| **Other Software** | PLC Programming, Version Control (Git), Continuous Integration, EPICS, Linux |
| **Domains of Interest** | Data Analysis, Modelling, User Experience, and Graphical User Interfaces |

## Presentations

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|---|---|---|
| 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