Zachary **Sailer**

Open-source Software Developer · Software Engineer

Project Jupyter · Cal Poly, San Luis Obispo

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Summary

Physicist, turned evolutionary biologist, turned open-source software developer. 7+ year activitely contributing to the scientific Python, open-source community. 7+ years contributing to IPython and Project Jupyter. Both a heavy user and developer of open-source scientific software. Currently working on strengthening security around Jupyter deployments, building tools that enable teams to ship Jupyter under strict security requirements. Thankful to those in the community that invested in me-working hard everyday to pay-it-forward through mentoring and teaching.

Work Experience

Project Jupyter — *San Luis Obispo, CA*

Lead Software Engineer — *Aug. 2018 - today*

- Coauthored and sphepherded two Jupyter Enhancement Proposals: 1) the Jupyter Server and 2) the Jupyter Telemetry System.
- Led development of the Jupyter Server library—a fork of the Jupyter Notebook Tornado Server.
- Co-created and led the development Jupyter Telemetry Library.
- Trained and mentored three Jupyter Cal Poly Interns through development and release of three JupyterLab extensions.

IPython Team — *San Luis Obispo, CA*

Core Developer — *Jan. 2013 - Sep. 2013*

- Authored and shepherded an IPython Enhancement Proposal for the IPython (later Jupyter) Notebook Contents Service.
- Developed the IPython (now Jupyter) Notebook Contents Service.
- Actively maintained and reviewed code contributions with the rest of the IPython team.

Education

Ph.D. in Chemistry and Biochemistry · University of Oregon — *Sep. 2013 - Jun. 2018*

- Created "Epistasis"—a Python API for estimating high-order interactions in large genomic data.
- Created Pandas-flavor and PhyloPandas—two Pandas extensions for better bioinformatics (presented at SciPy 2018).
- Designed and co-created JupyterLab extensions for computational biologists.
- Contributed to various libraries like NetworkX, Dendropy, BioPython, Altair, and Pandas.
- Taught various courses on Git, Github, programming in Python, and Jupyter Notebooks.
- Mentored six graduate students on open-source, computational research projects.

B.S. in Physics · California Polytechnic State University, SLO — *Sep. 2009 - Jun. 2013*

- Began open-source career by contributing to IPython.
- Released Senior project as a fully open-source, reproducible repository of IPython Notebooks on Github.

Highlighted Presentations

Invited Talk · "JupyterLab: the next generation Jupyter interface." — *Seattle, WA*

Fred Hutch Cancer Research Center — *Dec. 2019*

Invited Talk · "Jupyter and Rich Context" — *Washington DC*

National Press Club, Rich Context Workshop — *Nov. 2019*

Invited Talk · "How Jupyter makes experimental and computational collaborations easy" — *NYC, NY*

JupyterCon 2017 — *Aug. 2017*

Highlighted Publications

Sailer ZS*, Harms MJ — *PNAS*

"Molecular ensembles make evolution unpredictable" — *2017*

Sailer ZS*, Harms MJ — *PLOS Computational Biology*

"High-order epistasis shapes evolutionary trajectories" — *2017*

Sailer ZS*, Harms MJ — *Genetics*

"Detecting high-order epistasis in nonlinear genotype-phenotype maps" — *2017*

Skills

Languages	Python, Typescript, Javascript, Tex
Tools	Jupyter, Tornado, traitlets, Scikit-learn, Numpy, Scipy, Pandas, Matplotlib, Dask
Other Technologies	AWS, GCloud, Azure, Kubernetes, Git, Github, Gitlab