Josiah Schwab

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https://github.com/jschwab -- https://www.linkedin.com/in/josiah-schwab/

Skills

Software development. Independent and collaborative research. Troubleshooting and debugging complex systems. Written and verbal technical communication.

Experienced with: Python (including NumPy, SciPy, Matplotlib, Django), Fortran, bash; git, svn, GitHub; Linux, MacOS; emacs; LaTeX, Markdown/Jekyll, ReST/Sphinx

Experience

Waymo / Software Engineer

November 2021 - PRESENT

Simulating and evaluating the performance and safety of the Waymo self-driving car

UC Santa Cruz / Postdoctoral Researcher

August 2016 - November 2021

Developer of the open-source stellar evolution software *MESA* (1000+ users)

- Designed and refined testing infrastructure, reducing the time to identify regressions from days to a few hours
- Led migration of version control system from SVN to Git/GitHub, increasing developer productivity and community engagement
- Rearchitected, refactored, and documented microphysics modules, enhancing and extending core capabilities and enabling new kinds of stellar models
- Co-directed annual MESA Summer School and trained over 200 researchers in effective use of the software through intensive, hands-on tutorials

Independent researcher in stellar astrophysics

- Communicated scientific results in 32 peer-reviewed papers (12 first author) and 20 conference and seminar presentations
- Mentored student researchers, including supervising 2 undergraduate theses
- Organized 2 international astrophysics conferences (~50 participants) and maintained a world-wide network of collaborators
- Wrote research proposals attracting $400k in external funding

Education

UC Berkeley / MS & PhD in Physics

August 2009 - May 2016

Award-winning researcher and teacher

- Wrote influential astrophysics thesis describing outcomes of stellar mergers
- Taught 5 physics and astronomy courses at a range of levels, including co-developing a course for non-majors that fused astronomy and biology
- Advanced diversity and inclusion in physics as part of the Compass Project, engaging undergraduates from groups traditionally underrepresented in the physical sciences through project-based courses and a mentoring program

MIT / BS in Physics

August 2005 - June 2009