Katie Chamberlain

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OBJECTIVE Graduating PhD Astrophysicist looking to start a career in Data Science and technical consulting

TECHNICAL SKILLS

Data & Visualization: Jupyter Notebook, Database management, Machine learning, Procreate
Project Management: Version control (git, Github, Github Actions), Agile/Scrum, Kanban
Languages & Computing: Python, High Performance Computing (slurm, pbs), bash, HTML & CSS, SQL, Mathematica, Java

PROFESSIONAL EXPERIENCE

Graduate Researcher — *University of Arizona,* Tucson AZ **Aug 2018—Present**

- Developed data pipelines to process terabytes of data from astronomical simulations using Python on high-performance computing clusters and managed resulting databases
- Created Jupyter Notebooks to analyze data and create compelling representations of complex data
- Led three successful research projects with a team of 16+ domestic and international collaborators
- Evaluated and optimized code performance and documentation utilizing version control systems
- Conducted training sessions on computing and streamlined workflows for fellow researchers
- Presented results at numerous conferences, seminars, and regular meetings to communicate key findings to collaborators, as well as technical and non-technical audiences
- Mentored graduate and undergraduate students to foster confidence and a sense of belonging in the community

Teaching Assistant — *University of Arizona,* Tucson AZ **Aug 2021—May 2022**

- Prepared and delivered engaging lectures and associated homework to facilitate learning
- Responded dynamically to analyze individual learning needs, adapt lessons in real time to ensure understanding, and help students navigate challenges effectively

Visiting Researcher — *Center for Computational Astrophysics, Flatiron Institute,* New York City NY **Jun—Aug 2021**

- Collaboratively designed software through pair coding sessions and frequent meetings, leading to efficient and reliable software development and deployment
- Performed Bayesian inference to constrain model parameters, and evaluated reliability and convergence to derive meaningful insights from data
- Implemented continuous integration practices to maintain documentation for remote team members

Research Project Lead — *Warrior Scholars Project of America,* Tucson AZ **Jun 2019, Jun 2020**

- Designed Jupyter Notebook-based student research projects and supervised a small research group — instructional materials publicly available on Github
- Provided guidance to students in defining educational and career development goals

Undergraduate Researcher — *Montana State University,* Bozeman MT **June 2015—Aug 2018**

- Constructed state of the art gravitational waveform models to incorporate additional physics
- Predicted constraints on tests of General Relativity by simulating data from future detectors, utilized Mathematica and computing clusters to perform frequentist analysis analytically
- Founded peer-led coding courses to supplement student learning and teaching experiences as President of the Society of Physics Students

EDUCATION

Doctor of Philosophy (PhD), Astronomy & Astrophysics **expected May 2024**
Master of Science (MS), Astronomy & Astrophysics **May 2021**
University of Arizona, Steward Observatory — Tucson AZ
Bachelors of Science (BS), Physics and Mathematics w/ Honors **May 2018**
Montana State University — Bozeman MT