Katie Chamberlain, Ph.D.

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<u>OBJECTIVE</u> 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), Slack, 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—May 2024**
- 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
- Trained fellow researchers in best practices for computing and streamlining workflows
- Presented results at over 20 conferences, seminars, and team 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   **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