Becky Nevin
Data Scientist

Boulder, CO
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SKILLS

Statistics: causal inference, error analysis, MCMC sampling, probabilistic programming, LDA, PCA

Data science: data visualization, uncertainty quantification, science writing and communication

Deep learning: computer vision, CNNs, simulation-based inference, Deep Ensembles

Tools: python, git, numpyro, jax, latex, SQL, Github Workflow, docker, kubernetes, HPC

RESEARCH & DATA SCIENCE EXPERIENCE

Deepskies Lab, Fermilab National Accelerator Laboratory - *Postdoctoral Fellow*

SEPTEMBER 2022 - PRESENT

- Research Leadership: Spearheading uncertainty quantification research, creating DeepUQ—a python package for ML practitioners and scientists. It guides in interpreting and calibrating posterior coverage and uncertainty predictions in deep learning models.
- CI/CD Experience: Directed physics module development, increased testing coverage, and identified issues for DeepBench (JOSS paper). Integral in the release cycle.
- Educational Contributions: Developed tutorials on statistical and machine learning models (e.g., numpyro, simulation-based inference, and NNs), mentored junior members
- DevOps Expertise: Engineered and implemented a scalable PostgreSQL data transfer service deployed via Kubernetes integrated with a robust Github-based testing framework, ensuring the reliability of the transfer.

Harvard & Smithsonian | Center for Astrophysics, Boston - *Postdoctoral Fellow*

AUGUST 2019 - AUGUST 2022

- Mentored and advised three student's PhD and undergraduate research projects
- Led a research program on galaxy mergers, publishing impactful papers (1, 2), and presented key findings at multiple conferences, contributing to the field's advancement
- Designed and deployed MergerMonger, an end-to-end pipeline that uses a wget and SQL lookup to query galaxy images, performs image segmentation, and marginalized statistical analysis. The resulting publicly available catalogs have 670 downloads

EDUCATION

University of Colorado, Boulder - *PhD in Astrophysics*

AUGUST 2013 - JUNE 2019

- Designed and led several research projects, which resulted in multiple successful grants (NSF grants, supercomputer grants, and telescope time)
- Orchestrated planetarium talk series and a science communication workshop