John D. Soltis
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EDUCATION:

Johns Hopkins University — Baltimore, MD
Ph.D in Astronomy and Astrophysics — 2019 - 2025
M.A. in Physics — 2019 - 2023
University of Michigan — Ann Arbor, MI
B.S. in Physics and Mathematical Physics — 2014 - 2018

TECHNICAL SKILLS:

Software: Python, Pytorch, Tensorflow, Scikit-Learn, Numpy, SciPy, bash, LaTeX, Excel
Methods: Bayesian Analysis, Deep Learning, AI Interpretability, Uncertainty Quantification

WORK EXPERIENCE:

RESEARCH ASSISTANT
Johns Hopkins University — Baltimore, MD — 2019 - 2025
- Cleaned and analyzed satellite data using Python packages, resulting in new highly-cited cosmological constraint.
- Designed, trained, and tested convolutional neural network to predict high quality observations from low quality ones.
- Built probabilistic normalizing flows model capable of directly estimating important astrophysical property for the first time.
- Developed novel interpretability methods for ML model, revealing relationship between observables and intrinsic properties.
- Utilized high performance computing, including CPU and GPU cores, to handle large datasets and machine learning training.
- Published three peer-reviewed first-author publications.

PRE-DOCTORAL RESEARCH FELLOW
Flatiron Institute — New York, NY — 2023 - 2024
- Performed novel analysis of dataset and provided needed bounds on robustness of very large simulation
- Utilized high performance computing for computational intensive task
- Published peer-reviewed first author publication and presented on research internationally

RESEARCH AFFILIATE
Lawrence Berkeley National Laboratory — Berkeley, CA — 2018 - 2019
- Trained convolutional neural network to detect wildfires early using images from national parks
- Traveled for and engaged in discussions on implementation and future of fire-detection model

RESEARCH ASSISTANT
University of Michigan — Ann Arbor, MI — 2017 - 2018
- Established percent-level bounds on isotropy of the Universe using observations of supernovae, Markov Chain Monte Carlo methods, and Python tools.
- Published first-author peer-reviewed publication.