

John D. Soltis

<https://johnsoltis.github.io/> | <https://github.com/johnsoltis>
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SUMMARY:

Scientist with extensive experience training, testing, and interpreting machine learning models on large noisy datasets. Demonstrated capacity to learn quickly and to complete projects in a timely manner. Eager to leverage analytical skills and inquisitive personality to new datasets and challenges.

EDUCATION:

Johns Hopkins University	Baltimore, MD
Ph.D in Astronomy and Astrophysics	2019 - 06/2025 (scheduled)
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: Data Analysis, Bayesian Analysis, Deep Learning, AI Interpretability

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. • Developed novel interpretability methods for model, revealing link between observations and astrophysical property. • Utilized high performance computing, including CPU and GPU cores, to handle large datasets. • Published two peer-reviewed first-author publications, with another accepted for publication. • Has given 10+ talks at multiple institutions, nationally and internationally.		

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 • Selected and cropped images for dataset construction • Traveled for and engaged in discussions on implementation and future of fire-detection model		