

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 (Defended)
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
<ul style="list-style-type: none">• 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
<ul style="list-style-type: none">• 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
<ul style="list-style-type: none">• 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		