Dustin Nguyen

+1-(480)-823-8799 • (dnguyen.phys@gmail.com) • • • Google Scholar

Summary: Experienced AI/ML Scientist with a background in computational astrophysics (Physics PhD).

Work Experience

Leidos Remote, USA
▷ *Senior Machine Learning Research Scientist* *03/2025 - Present*

- Solutioning for various capture efforts at Leidos Innovation Center (LInC)
- Technical contributor for a DARPA program using Graph ML for Space Situational Awareness tasks.
- Contributed to an IARPA program for remote-sensing detection of chemical aerosols.

Lockheed Martin Denver, CO
▷ *Senior Machine Learning Engineer* *03/2024 - 03/2025*

- Technical contributor for a DARPA program focused on utilizing Controlled Neural ODEs as a surrogate model in the AFSIM simulation environment.
- Contributed to corporate IRAD focused on using AI/ML methods for deciding tactics in AFSIM scenarios.

Los Alamos National Laboratory Los Alamos, NM
▷ *Applied Machine Learning Fellow* *05/2022 - 08/2022*

- Contributed to research focused on modeling with Scientific Machine Learning with Universal Differential Equations - using the geophysical Korteweg-de Vries equation as a toy model.

The Ohio State University Columbus, OH
▷ *Graduate Research Assistant and NASA FINESST Fellow* *08/2020 - 12/2023*

- Used computational methods to understand how starburst galaxies launch multiphase winds - which is related to how galaxies evolve. Resulted in 10 published peer-reviewed papers, with 6 being first author.

Award

- NASA FINESST Fellowship | PhD student led proposal ∼8% acceptance rate, ∼ $97K 2022

Technical Skills

Toolkit: JIRA, Confluence, CI/CD Pipelines, Git, Python, PyTorch/Lightning, Mlflow/Wandb, Linting, Unit Tests
Specialization: SciML - Neural SDEs/CDEs/PDEs/ODEs, UQ, Transformers, Time-series
Knowledge: Physics, Numerical Methods, Orbital Mechanics, Flight Dynamics, Quaternions, Machine Learning

Publications (Total 10, Six first-author papers.)

Machine Learning

- "Neural ODEs as a discovery tool...," Nguyen et al. 2023, NeurIPS 2023 Workshop on M.L. and Physical Sciences.
- "Neural Astrophysical Wind Models," Nguyen, 2023, ICML 2023 Workshop on M.L. for Astrophysics.

Astrophysics *(PhD research: Multi-dimensional simulations of multi-phase winds from starburst galaxies)*

- 4 first author papers in MNRAS, MNRAS Letters, and Astrophysical Journal Letters. 4 co-author papers.

Education

Ph.D. in Physics, The Ohio State University *08/2018 - 12/2023*
M.S. in Physics, The Ohio State University *08/2018 - 05/2021*
B.S. in Physics and Astrophysics, Arizona State University *08/2014 - 05/2018*