

Harris Hardiman-Mostow

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Summary — Final-year mathematics Ph.D. student and NSF Graduate Research Fellow with extensive machine learning research experience in academia and industry, spearheading complex projects with peer-reviewed publications in respected venues. Expert in deep learning and graph learning theory, algorithms, and applications. Proven leader in interdisciplinary teams and go-to person for scientific writing and conveying technical information to non-technical audiences.

Education

University of California, Los Angeles (UCLA)

Expected, June 2026

Ph.D. in Mathematics. Advisor: Andrea Bertozzi.

GPA: 3.93/4.0

- Awarded a 3-year National Science Foundation Graduate Research Fellowship (\$149,000), the USA's oldest fellowship for STEM graduate students. Acceptance rate of approximately 15%. Alumni include 42 Nobel laureates.
- Won a 3-year National Defense Science and Engineering Graduate Fellowship (\$136,000, declined), a highly competitive graduate STEM fellowship. Acceptance rate of approximately 7%.
- Received an NSF MENTOR Fellowship (\$34,000), a training grant for early-career Ph.D. students in machine learning.
- Teaching Assistant for Linear Algebra, Differential Equations, and Integration and Infinite Series.

University of California, Los Angeles (UCLA)

2023

M.A. in Mathematics

GPA: 3.92/4.0

Tufts University

2021

B.S. in Mathematics, B.S. in Mechanical Engineering, Summa Cum Laude

GPA: 3.96/4.0

- Frederick Melvin Ellis Prize, for “marked athletic versatility, academic achievement, and effective leadership.”
- Ralph S. Kaye Memorial Prize, awarded to the top mathematics student.
- Elected by 40 teammates as Captain of the Men’s Varsity Rowing Team. First Team All-Conference and All-Academic.
- Teaching Assistant for Introduction to Computing.

Experience

University of California, Los Angeles (UCLA)

2022 – Present

Graduate Researcher, Fellow

Los Angeles, CA

- Leading research projects in deep learning, graph-based learning, and active learning, with applications to imaging, remote sensing and adversarial robustness. 4 (co)-first author publications currently accepted or submitted.

NASA Jet Propulsion Laboratory (JPL)

07/2024 – 09/2024

Graduate Research Intern

La Cañada Flintridge, CA

- Led effort to research, develop, train, and validate a novel transformer-based deep learning model to map natural disaster damage extents using synthetic aperture radar (SAR). Now the primary algorithm in JPL’s SAR Disturbance Product.
- Collaborated with radar engineers and earth scientists to maximize efficacy of model and ensure real-world impact.
- Presented to groups within JPL and at the Science Understanding through Data Science (SUDS) Conference at Caltech.
- Featured on the NASA Disasters website in response to 2025 wildfires in Southern California.

The MITRE Corporation

06/2021 – 07/2021

Graduate Data Science Intern

Bedford, MA

- Researched and implemented unsupervised algorithms for multivariate online drift detection in time series data.

Publications

- **H. Hardiman-Mostow**, C. Marshak, A. Handwerger. Deep Self-Supervised Global Disturbance Mapping with Sentinel-1 OPERA RTC Synthetic Aperture Radar. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*.
- J. Brown*, B. Chen*, **H. Hardiman-Mostow***, J. Calder, and A.L. Bertozzi. GLL: A Differentiable Graph Learning Layer for Neural Networks. Submitted to *Journal of Machine Learning Research*. arXiv:2412.08016.
- J. Brown*, B. Chen*, **H. Hardiman-Mostow***, A. Weihs*, A.L. Bertozzi and J. Chanussot. Material identification in complex environments: neural network approaches to hyperspectral image analysis. *IEEE WHISPERS*, 2023.
- J. Enwright*, **H. Hardiman-Mostow***, J. Calder, and A.L. Bertozzi. Deep semi-supervised label propagation with applications to SAR image classification. *SPIE Conference on Defense and Commercial Sensing*, 2023.

Skills

- **Expertise:** Deep learning, graph-based learning, active learning, self-supervised and semi-supervised learning, remote sensing, numerical analysis and numerical linear algebra, time-series data, data visualization, technical writing.
- **Programming:** Python (including numpy, PyTorch, sklearn, matplotlib, numba), MATLAB.
- **Software:** LaTeX, Git and GitHub, Weights and Biases (wandb), High Performance Computing (HPC), Microsoft Office.

Interests

Running, cycling, watching movies, cooking, food and wine, poker, watching basketball & football.