

Harris Hardiman-Mostow

Department of Mathematics
University of California, Los Angeles
Los Angeles, CA 90095

Email: hhm@math.ucla.edu

LinkedIn: [linkedin.com/in/hardiman-mostow](https://www.linkedin.com/in/hardiman-mostow)



EDUCATION

Ph.D. in Mathematics

University of California, Los Angeles

GPA: 3.92/4.0

Advisor: Andrea Bertozzi

August 2021–June 2026 (expected)

Los Angeles, CA

M.A. in Mathematics

University of California, Los Angeles

GPA: 3.92/4.0

June 2023

Los Angeles, CA

B.S. in Mathematics, B.S. in Mechanical Engineering

Tufts University

Summa Cum Laude (3.96/4.0 GPA)

Advisor: James Murphy

May 2021

Medford, MA

EXPERIENCE

NSF Graduate Fellow

Graduate Researcher

UCLA Department of Mathematics

September 2023–Present

June 2022–August 2023

Los Angeles, CA

- Supported by the National Science Foundation Graduate Research Fellowship (NSF GRF). Currently researching deep learning and graph-based semi-supervised learning for image classification and remote sensing.
- Papers accepted to SPIE Defense and Commercial Sensing and IEEE WHISPERS.

Graduate Research Intern

NASA Jet Propulsion Lab

Mentors: Dr. Charlie Marshak and Dr. Al Handwerger

July–September 2024

Los Angeles, CA

- Built a novel, self-supervised, transformer-based deep learning model to map landslide, fire, and flood damage extents using synthetic aperture radar (SAR). Our model outperformed previous methods, both deep and classical.

Graduate Data Science Intern

The MITRE Corporation

Summer 2021

Bedford, MA

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

- Researched and implemented machine learning algorithms for signal reconstruction and anomaly detection in sparse spatio-temporal data. 2nd place in NSF Algorithms for Threat Detection Data Challenge.

PUBLICATIONS

In preparation:

1. **H. Hardiman-Mostow**, C. Marshak, A. Handwerger. Deep Self-Supervised Global Disturbance Mapping with Sentinel-1 OPERA RTC Synthetic Aperture Radar.

Submitted:

1. 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*.

Accepted:

2. 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.
1. 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.

*Co-first authors, listed alphabetically

INVITED TALKS AND PRESENTATIONS

2. “Deep Self-Supervised Global Disturbance Mapping with Sentinel-1 OPERA RTC,” Science Understanding through Data Science (SUDS) Conference, California Institute of Technology, Pasadena, CA. August 2024.
1. “Anomaly Detection in Sparsely Sampled Traffic Flow,” NSF Algorithms for Threat Detection Annual Workshop, University of Washington, Seattle, WA. November 2020 (Online).

GRANTS AND AWARDS

Grants and Fellowships:

- **NSF Graduate Research Fellowship** (2023-2026). \$149,000. The USA’s oldest fellowship program for graduate students in STEM. Alumni include 42 Nobel laureates and more than 450 members of the National Academy of Sciences.
- **National Defense Science and Engineering Graduate (NDSEG) Fellowship**. \$136,000 (declined). Highly competitive graduate STEM fellowship sponsored by the DoD (acceptance rate of approximately 7%).

- **NSF MENTOR Fellowship** (UCLA, 2021-2022). \$34,000. NSF training grant funding early-career PhD students interested in data science.
- **Tufts Summer Scholars Grant** (Tufts, 2020). \$5,500. Awarded to student-professor pairs to fund summer research projects.

Honors and Awards:

- **Frederick Melvin Ellis Prize** (Tufts, 2021), awarded to students who have “demonstrated marked athletic versatility, a modest manner, successful academic achievement, and the potential for effective leadership.”
- **Ralph S. Kaye Memorial Prize** (Tufts, 2021), awarded to the top mathematics student.
- **Tau Beta Pi** (Tufts, 2019), the national engineering honor society. Membership is awarded to 3rd year undergraduates in the top 1/8th of their class.
- **Dean’s List** (Tufts, all semesters)

TEACHING

UCLA

Teaching Assistant:

- Math 33A (Linear Algebra). Spring 2023.
- Math 33B (Differential Equations). Spring 2023.
- Math 31B (Integration and Infinite Series). Winter 2023.

Student evaluations available upon request.

Tufts University

- Teaching Assistant, ES-2 (Introduction to Computing in Engineering). Spring 2019.

LEADERSHIP AND SERVICE

Graduate Representative

September 2022–June 2023

UCLA Dept. of Mathematics Equity, Diversity, and Inclusion (EDI) Committee

- Reformed the qualifying exam system to improve fairness and implemented a peer mentorship program for first-year graduate students.

Tufts Men’s Varsity Rowing

September 2017–May 2021

Team Captain, Sept 2019–May 2021

- First-Team All-Conference, Spring 2021. Conference All-Academic Team, Spring 2019, 2020, 2021.
- Committed 20 hours per week to racing and training, year-round.
- Aided in creating a new team leadership position to coordinate trainings aimed at combating bias.

SKILLS

- **Programming:** Advanced: Python (including numpy, PyTorch, sklearn, matplotlib), MATLAB. Beginner: C++.
- **Software:** LaTeX, Microsoft Office, Mathematica.