# MATTHEW ESMAILI MALLORY

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## **EDUCATION**

PhD in Statistics, Harvard University

Awarded NSF Graduate Research Fellowship (GRFP), 2024-2027

Advised by Dr. Morgane Austern

MA in Statistics, Harvard University

2022-2025

BS in Pure Mathematics, BS in Statistics, University of California, Los Angeles

Honors Collegium, Highest Honors in Mathematics, 4.0 GPA

## **PUBLICATIONS**

Esmaili Mallory, M., Han Huang, K., & Austern, M. (2025). "Universality of High-Dimensional Logistic Regression and a Novel CGMT under Dependence with Applications to Data Augmentation." arXiv preprint. arXiv:2502.15752. (Accepted to Conference on Learning Theory (COLT) 2025).

Yu, A., Becquey, C., Halikias, D., **Esmaili Mallory, M.**, & Townsend, A. (2021). "Arbitrary-Depth Universal Approximation Theorems for Operator Neural Networks." arXiv preprint. arXiv:2109.11354.

# TEACHING

| Teaching Fellow for Stat 149: | Generalized Linear Models, Harvard | Jan 2024 - Jun 2024 |
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Teaching Fellow for Stat 104: Quantitative Methods for Economics, Harvard Aug 2023 - Dec 2023

• Received Harvard Undergraduate Association's Certificate of Special Recognition in teaching.

Teaching Assistant for Math 115A: Linear Algebra, UCLA

Jan 2022 - Mar 2022

Teaching Assistant for Math 115A: Linear Algebra, UCLA Apr 2021 - Jun 2021

#### RELEVANT COURSEWORK

| Mathematics | Real & Complex Ana | lysis, Measure Theory, C | Group Theory, Ring Theory, | Galois Theory, |
|-------------|--------------------|--------------------------|----------------------------|----------------|
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Linear Algebra, Differential Geometry, Topology, Ordinary & Partial Differential Equations, Random Matrix Theory, Fourier Analysis, Multivariate Differential & Integral Calculus

Statistics Probability Theory, Mathematical Statistics, Generalized Linear Models, Experimental Design,

Data Mining, Computational Statistics, Theoretical Machine Learning, Optimization, Monte Carlo Methods, Reinforcement Learning, Statistical Consulting, R, Python

# LEADERSHIP & WORK EXPERIENCE

# Statistical Consultant, Harvard

Jan 2024 - present

• Received acknowledgment in publications for assisting Harvard researchers in their statistical analyses.

President, Harvard Iranian Student Association

Undergraduate Researcher, UCLA Mathematics & Statistics Departments

July 2024 - present

President, UCLA Undergraduate Mathematics Students Association

Mar 2019 - Jun 2022

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Jan 2021 - Jun 2021

• Researched topological data analysis, algebraic statistics, category theory, and ergodic theory.

Mathematics Docent, Olga Radko Endowed Math Circles

Jul 2020 - Feb 2022

## **SKILLS**

English, Persian, Spanish | R. Python, Julia, LaTeX | Adobe PhotoShop, Illustrator, Premiere Pro, & After Effects