

DENALI MOLITOR

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EDUCATION

Doctor of Philosophy in Mathematics

June 2020

Master of Arts in Mathematics

June 2018

University of California, Los Angeles

Los Angeles, CA

- Awards: Eugene-Cota Robles Fellow

Bachelor of Arts in Mathematics, summa cum laude

May 2014

Colorado College

Colorado Springs, CO

- Awards: National Merit Scholar, Florian Cajori Excellence in Math Award, Euclid Scholar

TECHNICAL SKILLS

- Preferred languages: Python (NumPy, SciPy, Scikit-learn, Pandas), Matlab
- C++, SQL, git, technical communication

INTERESTS

Machine Learning, Optimization, Randomized Algorithms, Interpretability

EXPERIENCE

Graduate Researcher

2017-Present

University of California, Los Angeles, Department of Mathematics

Los Angeles, CA

- Designed and implemented experiments in Python and Matlab
- Communicated results in papers, oral and poster presentations
- Utilized git for version control in collaborations
- Studied the use of decision-tree ensembles to construct interpretable local linear models
 - Published in NeurIPS 2018
- Extended a simple classification method for random binary measurements of data
 - Improved efficiency for hierarchical data
 - Proposed an iterative extension that improves accuracy
- Derived convergence bounds for a homotopic gradient descent method for non-smooth, convex loss
- Investigated efficiency of greedy sketching methods for solving large linear systems
- Analyzed convergence of a parallel randomized Kaczmarz method
- Mentored teams of undergraduate summer researchers

Teaching Assistant

2016 - 2018

University of California, Los Angeles, Department of Mathematics

Los Angeles, CA

- Courses: Numerical Analysis, Machine Learning, Intro. to Computing (C++)

Mathematical Sciences Research Institute

Berkeley, CA

- Graduate Summer School on Representations of High-Dimensional Data

Coordinator, UCLA Women in Mathematics

2018 - Present

University of California, Los Angeles, Department of Mathematics

Los Angeles, CA

- Organized events for the UCLA Women in Mathematics Mentorship Program
- Fostered community among female graduate and undergraduate students

SELECTED PUBLICATIONS

J. Moorman, T. Tu, **D. Molitor**, D. Needell. “Randomized Kaczmarz with averaging.” Proc. Information Theory and Approximation Workshop, Feb. 2019.

D. Molitor and D. Needell. “An iterative method for classification of binary data.” ArXiv:1809.03041.

D. Molitor, D. Needell. “Hierarchical classification using binary data.” AI Magazine. To appear. ArXiv:1807.08825.

G. Plumb, **D. Molitor**, A. Talwalkar “Model agnostic supervised local explanations.” Proc. Neural Information Processing Systems (NeurIPS), Dec. 2018.

D. Molitor and D. Needell. “Matrix completion for structured observations.” Proc. Information Theory and Approximation, La Jolla CA, Feb. 2018.