

DENALI MOLITOR

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EDUCATION

Doctor of Philosophy in Mathematics

June 2020

University of California, Los Angeles, Los Angeles, CA

Advisor: Prof. Deanna Needell

Awards: Eugene-Cota Robles Fellow

Bachelor of Arts in Mathematics, summa cum laude

May 2014

Colorado College, Colorado Springs, CO.

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

RESEARCH EXPERIENCE

Mathematical Tools for Analyzing Lyme Disease Data with Prof. Deanna Needell

2017-Present

- Matrix completion with structured observations
- Classification using binary data

Random Forests for Local Linear Regression with Prof. Ameet Talwalkar

2017

- Studied the use of random forests to build supervised local neighborhoods for local linear regression
- Presented a poster at the 2017 SoCal Machine Learning Conference

Undergraduate Research Experiences

- Research in Industrial Projects for Students at the Institute for Pure and Applied Mathematics Summer 2014
- Undergraduate thesis in mathematics with Prof. Amelia Taylor Spring 2014
- Cornell University Research Experience for Undergraduates Summer 2013
- Valparaiso University Research Experience for Undergraduates Summer 2012

PUBLICATIONS

G. Plumb, D. Molitor, A. Talwalkar “Supervised local modeling for interpretability.” Proc. Neural Information Processing Systems (NIPS), Dec. 2018.

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

R. Strichartz, N. Ott, D. Molitor “Using peano curves to construct Laplacians on fractals”, Dec. 2015, Fractals, Vol. 23, No. 4, DOI:10.1142/S0218348X15500486

D. Molitor, M. Steel, A. Taylor, “The structure of symmetric N-player games when influence and independence collide,” Jan. 2015, Advances in Applied Mathematics, Vol. 62, 15-40, DOI:10.1016/j.aam.2014.09.001

D. Maxin, L. Berec, A. Bingham, J. Pattyson, “Is more better? Higher sterilization of infected hosts need not result in reduced pest population,” June 2014, J. Math. Biol., DOI:10.1007/S00285-014-0800-0

TEACHING

Assistant REU mentor, University of California, Los Angeles

June 2018 - August 2018

- Analysis of classification methods applied to Lyme disease data

Teaching assistant, Mathematical Sciences Research Institute

July 2018

- Representations of High-Dimensional Data

Teaching assistant, University of California, Los Angeles

September 2016 - December 2017

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

Mathematics Paraprofessional, Colorado College

August 2014 - May 2015

- Led problem sessions and held open office hours for mathematics students
- Organized and supervised student graders
- Promoted student involvement in extracurricular mathematics

INVOLVEMENT

UCLA Directed Reading Program in Mathematics

June 2018 - Present

UCLA Women in Mathematics Mentorship Program

September 2017 - Present

UCLA Women in Mathematics

September 2015 - Present

UCLA Club Climbing Team

September 2017 - Present