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, D. Needell. "Hierarchical classification using binary data." AAAI Magazine Special Issue on Deep Models, Machine Learning and Artificial Intelligence Applications in National and International Security, June, 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