CURRICULUM VITAE FOR ALAN N. AMIN

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EDUCATION

2015-2019	Bachelor of Science at the University of Toronto Specialist in Biochemistry and Major in Mathematics cGPA 3.98
2019-May 16 2023	PhD at Harvard University (anticipated) Thesis: Nonparametric Methods for Building and Evaluating Models of Biological Sequences. Advised by Professor Debbie Marks Systems Biology Program Supported by NSERC Postgraduate Scholarships – Doctoral program: $21,000 CAD per year for three years, starting April 2022

RESEARCH EXPERIENCE

Advised by Debbie Marks July 2020 – Present. Harvard University

Undergrad researcher Sept 2017 – Aug 2019. Advisor: Dr. Hue Sun Chan. University of Toronto

Undergrad researcher June 2018 – Aug 2018. Advisor: Dr. Clifford Brangwynne. Princeton University

Undergrad researcher May 2017 - Aug 2017. Advisor: Dr. Molly Shoichet. University of Toronto

Undergrad researcher July 2016 – Apr 2017. Advisor: Dr. Ronald Kluger. University of Toronto

PUBLICATIONS

Amin A N, Weinstein E N*, Marks D S* (*Equal contribution). A Kernelized Stein Discrepancy for Biological Sequences. *In preparation,* 2023

Amin A N, Weinstein E N*, Marks D S* (*Equal contribution). Kernels with Guaranteed Flexibility for Reliable Machine Learning on Biological Sequences. *In preparation,* 2023

Weinstein E N*, **Amin A N***, Frazer J, Marks D S (*Equal contribution). Non-identifiability and the blessings of misspecification in models of molecular fitness and phylogeny. *NeurIPS,* 2022 (Oral)

Weinstein E N, **Amin A N**, Grathwohl W, Kassler D, Disset J, Marks D S. Optimal design of stochastic DNA synthesis protocols based on generative sequence models, *AISTATS,* 2022

Amin A N*, Weinstein E N*, Marks D S (*Equal contribution). A generative nonparametric Bayesian model for whole genomes, *NeurIPS*, 2021.

Amin A N, Lin Y-H, Das S, Chan H S. “Theory for a Sequence-Specific "Fuzzy" Binding Mechanism Between a Pair of Intrinsically Disordered Proteins”, *J Phys Chem B,* 2020

Das S, **Amin A N**, Lin Y-H, Chan H S. "Coarse-grained residue-based models of disordered protein condensates: utility and limitations of simple charge pattern parameters." *Phys. Chem. Chem. Phys.* 2018

Delplace V, Ortin-Martinex A, Tsai E L S, **Amin A N**, Wallace V and Shoichet M S. "Controlled Release Strategy Designed for Intravitreal Protein Delivery to the Retina." *J. Control. Release* 2018**.**

SERVICE

Reviewer 2020/2021, **area-chair** 2022 at Learning Meaningful Representations of Life workshop at NeurIPS

Top 10% of reviewers at ICML 2022 - invited to chair a session

Top reviewer at Neurips 2022 - moderated deep-dive session 5A

Reviewer at ICML 2023 (ongoing)

PRESENTATIONS

NeurIPs, Learning Meaningful Representations of Life Workshop; poster; December 2020.

Broad institute, Models, Inference and Algorithms Talks; primer (talk); May 2021.

CSHL, Probabilistic Modeling in Genomics; poster; May 2021.

NeurIPs, Learning Meaningful Representations of Life Workshop; oral; December 2021.

NeurIPs, Learning Meaningful Representations of Life Workshop; poster; December 2022.

TEACHING EXPERIENCE

Sept – Apr 2017	Teaching assistant for MAT137 Calculus! at the UofT
Sept – Apr 2018	Teaching assistant for MAT135 & MAT136 Calculus at the UofT
Sept – Jan 2019	Teaching assistant for MAT224 Linear Algebra at the UofT
Sept – Jan 2022	Teaching fellow for BCMP230 Principles and practice of drug development at Harvard University