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-Now PhD in progress at Harvard University
Advised by Professor Debbie Marks
Systems Biology Program

RESEARCH EXPERIENCE

Advised by Debbie Marks July 2020 – Present. Harvard University

Designing and applying nonparametric generative sequence models for DNA.

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

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

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

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

PUBLICATIONS

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**.**

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

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

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

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

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. *arXiv*, 2022

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; poster; December 2021.

SERVICE

Reviewer for Learning Meaningful Representations of Life workshop at the NeurIPS, 2020/2021

Reviewer for ICML 2022

TEACHING EXPERIENCE

Sept 2016 – Apr 2017 Teaching assistant for MAT137 Calculus! at the UofT

Sept 2017 – Apr 2018 Teaching assistant for MAT135 & MAT136 Calculus at the UofT

Sept 2018 – Jan 2019 Teaching assistant for MAT224 Linear Algebra at the UofT