

Research Appointments

Bayesian Dynamics, Complexity Economics, Machine Learning, Adaptive Systems (2020-Present)

University of Oxford, INET Postdoctoral Research Fellow Jan 2025-Present
Technology projection, ABM forecasting, supply network reconstruction using complexity economics methods

University of Chicago, Urban Science Lab/Murugan Lab Graduate RA Aug 2020-Present
Studying cooperation and inequality through the intersection of dynamical systems and information theory

Université de Lausanne, Département des Operations Visiting Scholar Jun-Sep 2023
Bayesian modeling of dynamical principal agent problem

MIT, Metric Geometry and Gerrymandering Group RA, Computational Thry. Jun-Jul 2018
Mathematical modeling and data analysis studying problems in congressional redistricting

Condensed Matter, Quantum Computing Experiments (2016-20)

University of Chicago, Bernien Lab Ph.D RA, Exper. and Computational Thry. Oct 2018-Oct 2020
Founding graduate student in an atomic physics lab development quantum computers and simulators

- *Lab:* Implementing high-precision laser network; CAD design/fabrication of equipment
- *Programming:* Hardware-accelerated dynamic computation of atom rearrangement RF tones, interfaced with arbitrary waveform generator (C++).
- *Theory:* Computational analysis of tight-binding Hamiltonians (Python)

California Institute of Technology, LIGO: RA, Exper. and Computational Thry. Mar-Oct 2017

Oral and Poster Presentations

Bayesian Origins of Growth, Cooperation, and Inequality in populations of learning agents 2021-2025
at: APS March Meeting, U of Chicago, The Abdus Salam ICTP, Tufts University,
UNIL, U of Oxford, London Mathematical Laboratory, Harris School of Public Policy

Probing Topological Quantum Systems with Cold Atoms 2019-2020
at: NSBP Annual Conference, U of Chicago

Grants

Paglia Post-Bac Research Fellowship, Carleton College (oversaw, \$75,000) Feb 2025

ThinkSwiss Research Scholarship, Swiss Federal Government (5000CHF) Jun 2023

National Science Foundation Graduate Research Fellowship (NSF GRFP \$120,000) Apr 2020

Carl Rousse Fellowship, Caltech LIGO, National Society of Black Physicists (NSBP, \$5,000) Jul 2017

Leadership Experience

Equity, Diversity, and Inclusion Office, UChicago PSD: Student Advisor Feb 2018-2025

- Organizing events for the graduate student body focused on community development.
- Spoke at diversity recruitment panels, and recruited on behalf of the division in national conferences.

Tufts Community Union: Class of 2018 Senator May 2017-May 2018

Society of Physics Students, Tufts University Chapter: Vice President May 2017 - May 2018
Coordinated research symposiums, talks by Tufts and external researchers, community outreach events.

Tufts Club Basketball: Founder/President Sep 2016-May 2018
Competitive intercollegiate basketball team.

Skills

Technology: C++/C, Python, CUDA, LaTeX, Django, Mathematica, Regression, Bayesian inference, AR-CGIS, DAQ, analog circuits, optics, photonics, communications management, graphic and web design

Languages: Intermediate German, beginner Chinese Hebrew, and French

Interpersonal: Enthusiastically collaborates as member of group. Able to enter new space, learn skills, and promptly become a productive member. Reliably completes independent tasks on time