Jordan Kemp *Physics Ph.D Candidate, University of Chicago*

B.S. in Physics, Tufts University

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Research Appointments

Bayesian Learning, Complex Systems and Social Physics (2018-Present)

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

- *Theory:* Independently derived closed-form expressions for various stochastic processes.
- *Programming:* Monte-Carlo simulations of stochastic agent-based models. Census data processing, curve fitting, and Bayesian optimization

Université de Lausanne, Depertément des Operations *Visiting Scholar*   Jun-Sep 2023
Bayesian learnings models 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 Experiment (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)

Tufts University, Surface Physics Lab: *RA, Exper. and Computational Thry.*   May 2016-May 2018
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   2021-2023
     at: APS March Meeting, University of Chicago, The Abdus Salam International Centre for Theoretical Physics, University of Lausanne, London Mathematical Laboratory

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

Awards and Recognition

ThinkSwiss Research Scholarship, Swiss Federal Government   Jun 2023
National Science Foundation Graduate Research Fellowship (NSF GRFP)   Apr 2020
Best Speaker in Photonics and Optical Physics, NSBP Annual Conference   Nov 2019
Carl Rousse Fellowship, Caltech LIGO, National Society of Black Physicists (NSBP)   Jul 2017

Leadership Experience

Equity, Diversity, and Inclusion Office, UChicago PSD: *Student Advisor*   Feb 2018-Present
- Organizing events for the graduate student body focused on engendering community focused on marginalized identities, mentoring graduate students
- 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

Click for Publications: in *PNAS Nexus, Physical Review X,...*