

EDUCATION

Stanford Graduate School of Business Stanford, CA
Non-degree seeking Research Fellow. *June 2024*
Courses: Macroeconomics Sequence (PhD, Ongoing)

Harvard University (GPA: 3.987/4.0). Cambridge, MA
S.M. in Applied Mathematics (Concurrent Master's). *May 2023*
A.B. Joint in Computer Science and Statistics, *magna cum laude*. *May 2023*
Courses: Real/Complex Analysis, Probability/Statistics (PhD), Econometrics (PhD). See transcript.
Awards: *Phi Beta Kappa, John Harvard Scholar (x3), Detur Prize, Distinction in Teaching (x4)*.

RESEARCH EXPERIENCE

Stanford Graduate School of Business Stanford, CA
Pre-doctoral Research Fellow in Global Capital Allocation Project Group *July 2023 - Present*

- Deriving macro-level insights from micro-level big data for global ownership, utilizing parallel cluster computing on Stanford's Sherlock cluster.
- Developing aggregation algorithm to link downstream entities with upstream shareholders for indirect capital allocations.
- Reviewing literature on geoeconomics and data sources for financial news outlets.
- Improving lab efficiency by developing several assistive programs for managing multiple large-scale data projects.

Harvard School of Engineering and Applied Sciences Cambridge, MA
Student Researcher · Summer Program for Undergraduates in Data Science Research Fellow *May 2022 - March 2023*

- Invented a new deep Bayesian neural network-based model to interpolate and improve upon the performances of maximum a-posteriori based Neural Linear Models and fixed-kernel Gaussian Processes.
- Empirically evaluated different parametrizations and architectures of the model with regularization interpretations.
- Benchmarked the model against other state-of-the-art deep Bayesian models with different nonstationary datasets.
- Presented weekly updates and relevant papers at the Data to Actionable Knowledge Lab; advised by Dr. Beau Coker.
- Organized results and literature review into senior thesis. [Link to Senior Thesis](#).

Harvard University Cambridge, MA
Student Researcher for AI for Social Good (Extension of CS288 Course) *August 2022 - December 2022*

- Curated dataset of publicly available satellite image mosaics using Sentinel-2 for each of the 37 regions of Nigeria.
- Adapted convolutional-neural network as computer vision model for prediction of multi-dimensional poverty in Nigeria.
- Submitted with coauthor and accepted as short paper at AAAI Workshop on AI for Social Good. [Link to Short Paper](#).

Harvard Graduate School of Education Cambridge, MA
Research Assistant at Learning in Technology Lab *August 2021 - December 2021*

- Performed transfer learning with Facebook's computer vision model detectron2 to identify and classify scientific lab equipment usage in high-school chemistry lab settings.

Harvard School of Engineering and Applied Sciences Remote
Research Assistant in Harvard Signal Processing (CRISP) Group *February 2020 - September 2020*

- Implemented new iterative machine learning model for compressed convolutional sparse dictionary learning in PyTorch.
- Trained and evaluated model using mean-squared error and PSNR metrics against benchmark models, including denoising approximate message passing and wavelet compression methods; advised by Dr. Bahareh Tolooshams.

Massachusetts Institute of Technology Remote
Student Researcher with MIT PRIMES-USA Program (20 students selected nationwide) *January 2018 - January 2019*

- Proved an invariance in Bar Natans perturbation of Khovanovs cohomology as a bigraded vector space under isomorphism in the Conway mutation of a knot; advised by Dr. Jianfeng Lin. [Link to Final Report](#).

TEACHING EXPERIENCE

Harvard University

(Head) Teaching Fellow (TF) for Harvard's Introduction to Artificial Intelligence Course

Cambridge, MA

Fall 2022, Fall 2021

- Expanded course from an enrollment of 65 in 2021 (as a regular TF) to an enrollment of 115 in 2022 (as the head TF).
- Created 5 problem sets with a combined total of 5 in-depth programming problems and over 20 theoretical problems.
- Supervised the creation of over 15 new handouts (new section notes, and lecture notes). [Link to Course Materials](#).
- Directed weekly meetings to coordinate responsibilities of course material creation, grading, and responding to students.

Harvard University

Teaching Fellow/Course Assistant for Multiple Courses

Cambridge, MA/Remote

August 2020 - December 2022

- On course staff for 9 courses in math, statistics, computer science (One or more iterations of: Theoretical computer science, Machine Learning, Artificial Intelligence, Group Theory, Probability, Statistical Inference).
- Taught over 50 sections, ranging from large reviews with over 100 students to 1-1 tutoring, both virtually and in person.

PROFESSIONAL ACTIVITIES

Quarterly Journal of Economics Referee

Referee

Cambridge, MA

May 2023

Five Rings Capital

Quantitative Trader Intern

New York, New York

May 2021 - August 2021

- Conducted quantitative data analysis research and mock trading (intentionally vague in compliance with the company).

LEADERSHIP AND VOLUNTEERING

Harvard Association for U.S. China Relations

Executive Board, Finance Director (2021-2022), Conference Director (2020-2021)

Cambridge, MA

August 2020 - August 2022

- Directed budget of \$200,000 for international conference, community, and organizational expenses.
- Partnered with nonprofit to host a 5 week long hybrid conference for Chinese students.
- Recruited over two dozen professors, student organizations, and student mentors for conference programming involving seminars, panels, masterclasses, and mentorship pairings.
- As seminar leader, taught a week-long rigorous course on algorithms to fifty students, complete with self-made lecture slides, notes, and Jupyter Notebook demos. [Course Materials GitHub Repository](#).

Harvard Square Homeless Shelter

Supervisor (2022-2023), Resource Advocate (2021-2022)

Cambridge, MA

November 2021 - December 2022

- Connected several guests to local resources for shelter, food, and administrative needs on a weekly basis.
- Instituted a new centralized activities tracker to document dozens of client cases and coordinate across resource advocates.

Winthrop House Community

Hutchinson Prize Senior Award Winner

Cambridge, MA

May 2023

- Actively hosted Chinese-language learning tables and international development themed study breaks to foster the Winthrop House Community.

SKILLS AND INTERESTS

Programming Languages: Python , R , C++ , Stata , Bash

Python Packages: Numpy , Pandas , Scipy , Seaborn , Sklearn , PyTorch

Interests: International Development , Juggling , Calisthenics , Piano

Languages: Mandarin (Fluent)