Franklyn Wang

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Experience

Two Sigma Investments — New York City, NY
Quantitative Research on Two Sigma's Systematic Macro Team — *July 2022 – present*
- Working on Machine Learning for Macro datasets

The D.E. Shaw Group — New York City, NY (Remote)
Quantitative Analyst Intern — *June 2021 – August 2021*

Two Sigma Investments — New York City, NY (Remote)
Quantitative Researcher / Modelling Intern — *May 2020 – July 2020*

Citadel LLC — Chicago, IL
Software Engineering Intern — Summer 2019

Harvard CMSA — Cambridge, MA
Economic Design Fellow — Summer 2017, 2018

Education

Harvard University — Cambridge, MA
B.S. in Math, M.S. in Computer Science, Major GPA: 4.00/4.00 — 2018–2022

Graduate-Level Coursework: Stat 210 (Probability I), Stat 211 (Inference I), Stat 212 (Probability II), Stat 213 (Inference II), Stat 236 (Statistical Machine Learning), MIT 6.438 (Algorithms for Inference), CS 221 (Complexity Theory), CS 222 (Algorithms at the End of the Wire), CS 223 (Probability and Algorithms), CS 228 (Computational Learning Theory), CS 229R (Spectral Graph Theory), CS 229R (Essential Coding Theory), CS 229BR (Theory of Deep Learning), CS 263 (Systems Security) Math 229 (Analytic Number Theory), Math 243 (Evolutionary Dynamics), Math 278y (Spinglasses and Concentration Inequalities), MIT 6.853 (Topics in Algorithmic Game Theory), MIT 18.408 (Topics in the theory of deep learning), MIT 6.843 (Robotic Manipulation)

Publications

$*$ denotes equal contribution.

1. Automated Detection of Underconstrained Circuits for Zero-Knowledge Proofs
   Shankara Pailoor, Yanju Chen, **Franklyn Wang**, Clara Rodríguez, Jacob Van Geffen, Jason Morton, Michael Chu, Brian Gu, Yu Feng, Isil Dillig
   ACM Conference on Programming Language Design and Implementation 2023

2. Recommending with Recommendations
   Naveen Durvasula*, **Franklyn Wang***, and Scott Duke Kominers
   *Marketplace Innovation Workshop (**Oral**)*, 2022

3. Intrinisic Gradient Compression for Federated Learning
   Luke Melas-Kyriazi* and **Franklyn Wang***
   Federated Learning for NLP Workshop at ACL 2022

4. An Accurate and Scalable Subseasonal Forecasting Toolkit for the United States
   Soukayna Mouatadid, Paulo Orenstein, **Franklyn Wang**, Judah Cohen, Genevieve Flaspohler, Ernest Fraenkel, Lester Mackey, Miruna Oprescu
   Climate Change AI Workshop at ICML 2021 (**Spotlight**)
   NeurIPS 2023

5. Putting the "Learning" in Learning-Augmented Algorithms for Frequency Estimation
   Elbert Du*, **Franklyn Wang***, and Michael Mitzenmacher
   ICML, 2021

6. Optimizing Reserves in School Choice: A Dynamic Programming Approach
   Franklyn Wang, Ravi Jagadeesan, and Scott Duke Kominers
   Operations Research Letters, vol. 47, no. 5, pp. 438-446, 2019.
   A version was presented at the 5th International Workshop on Matching Under Preferences (*MATCH-UP*)

Working Papers and Preprints

1. Generalization by Recognizing Confusion
   Daniel Chiu*, **Franklyn Wang***, and Scott Duke Kominers
   arXiv preprint arXiv:2006.07737 2020

2. Respect for Improvements via Matching with Contracts
   Franklyn Wang and Scott Duke Kominers
   Submitted to WINE 2021

Scholarships and Awards

- Museum of Mathematics Masters Competition Champion — 2023, 2024
- Goldwater Scholar — 2020
- Putnam Mathematical Competition N2 (Top 20) — 2019, 2021
- ICPC North America Top 2, 3 & World Finalist — 2019, 2020
- USA Math Olympiad Honorable Mention (Top 20) — 2016
- USA Computing Olympiad 5th place — 2018
- USA Computing Olympiad Finalist — 2017, 2018
- Siemens Competition 2nd place Individual ($50,000) — 2017
- Davidson Fellow ($25,000) — 2018
- Regeneron STS Finalist ($25,000) — 2018

Teaching

- **Teaching Assistant** at Harvard University — Fall 2019, Fall 2020, Fall 2021
  Probability I (Stat 210)
- **Teaching Assistant** at Harvard University — Spring 2020, Spring 2021
  Algorithms and Data Structures (CS 124)
- **Lead Instructor** at Summer STEM Institute (6 weeks, 500+ students from 34 countries) — Summer 2020
  Research Bootcamp
- **Assistant Instructor** at Summer STEM Institute (6 weeks, 500+ students from 34 countries) — Summer 2021
  Research Bootcamp

Mentoring

- **Adam Ardeishar** 2019
  Mentored student on "Extreme Values of a Statistical Distribution Relating to the Coupon Collector Problem". Student won third place at Regneron STS ($150,000)

Reviewing

Reviewer for *Management Science*