Kai Yuanqing Xiao

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EDUCATION

Massachusetts Institute of Technology – Computer Science and Artificial Intelligence Lab — Cambridge, MA
Pursuing a Ph.D. in Computer Science, with a focus on Theoretical Computer Science — 2017-Present
Advisor: Aleksander Madry

Massachusetts Institute of Technology — Cambridge, MA
B.S. Degree – Double Major in Computer Science and Mathematics; GPA: 5.0/5.0 — 2013-2017
Coursework: Advanced Algorithms, Complexity Theory, Probability Theory, Algorithms for Inference, Computer Vision
Performance Engineering, TA for Algorithms II

Oxford University — Oxford, UK
Visiting Student in Mathematics at St. Peter's College — Jan.-June 2016
Coursework: Machine Learning, Networks

WORK EXPERIENCE

Citadel — Chicago, IL
Summer Quantitative Research Analyst — Summer 2016
- Used text mining and sentiment analysis on a unique dataset to construct alpha signal
- Improved the data processing pipeline and evaluated changes using characteristic portfolios and simulations

D.E. Shaw & Co. — New York City, NY
Quantitative Analyst / Software Development Intern — Summer 2015
- Created mathematical models for the behavior of specific types of trades based on market conditions
- Used vectorized operations in NumPy to analyze large amounts of historical data

A9 (Product Search Team) — Palo Alto, CA
Software Development Engineer Intern — Summer 2014
- Worked with Apache Hadoop and Apache Pig to perform map-reduce tasks
- Generated and logged statistical metrics related to Amazon's product search rankings
- Mined Twitter data for trending music and showed related items available on Amazon (side project)

Jane Street Capital — New York City, NY
Assistant Trader — January 2014
- Modeled stock market behavior through analysis of historical and recent financial data

Stanford University Chemistry Department; Bianxiao Cui, Ph.D. — Stanford, CA
Data Analysis Intern — July-Aug. 2012
- Processed images of protein movement across axons; traced curves in images using MATLAB program
- Improved functionality of MATLAB curve-tracing program after learning the language from scratch

LEADERSHIP EXPERIENCE

MIT TechX
Director of Corporate Relations — 2014-2015
- Leader of student group that communicated with companies to sponsor and exhibit their technologies at MIT's annual xFair
- Worked with other executive board members to run events that expose MIT students to cool technology

RESEARCH & PROJECTS

"Cookie Clicker" (joint work with Erik Demaine, Hiro Ito, Stefan Langerman, Jayson Lynch, Mikhail Rudoy), to appear in Jan. 2018. Special issue of papers from the 20th Japan Conference on Discrete and Computational Geometry, Graphs, and Games.
- Analyzing optimal strategies for incremental games like Cookie Clicker
- Discovered NP-Completeness results and approximation algorithms

Neural Connectivities Analysis; Prof. Shafrira Goldwasser — Spring 2016
- Analyzed neural connectivities dataset using spectral clustering and community graph model

Paper on Online Algorithms; ArXiv link: https://arxiv.org/pdf/1501.01720.pdf — December 2014
- Wrote an original paper discussing online algorithms applied to HitGrab's game Mousehunt

AWARDS

Math Competitions — 2009-2014
- Qualified 4 times for USA Math Olympiad; Honorable Mention (top 24 out of over 100,000) in 2012, top 50 in 2011
- Top 200 in William Lowell Putnam Mathematical Competition in 2014

SKILLS & INTERESTS

- Computer Programming: Python, Java, C, R
- Interests: Dance, Ultimate Frisbee, Pi Lambda Phi Fraternity, Basketball, Alpine Skiing, Speech and Debate