ETHAN LEE

781-690-7469 • ethan_lee@college.harvard.edu • github.com/eyechan01

EDUCATION

Harvard University — Cambridge, MA

A.B in Computer Science, GPA: 3.934/4.00 — May 2023

A.M in Statistics, GPA: 3.669/4.00 — May 2023

Relevant Coursework: Data Structures & Algorithms. Abstraction and Design in Computation. Machine Learning. Artificial Intelligence. Systems Programming & Machine Organization. Quantum Computation & Quantum Complexity.

Activities: Harvard Open Data Project (President). Harvard Computer Society (Director of Diversity & Inclusion). Datamatch (Algorithms/Web Dev). Harvard Data Analytics Group. Harvard Crimson. Asian American Dance Troupe.

Needham High School — Needham, MA

US Presidential Scholars Semifinalist. Valedictorian. Class Day Speaker. 5-time AIME. — June 2019

WORK EXPERIENCE

Optiver — Chicago, IL

Trainee, Trader & Trading Software Engineer — August 2023 – November 2023

- Completed training program for options theory fundamentals, underwent month-long simulated trading, and conducted research to find and test profitable trading strategies. Maintained and updated trading software and tools in Python.

Capital One — New York, NY

Intern, Technology — June 2022 – August 2022

- Developed a unified testing environment in Python and JavaScript (React) for unit tests and regression tests to be used by Capital One's Capital Markets division; pulled and incorporated data from SQL backend using REST API calls.

World Data Lab — Vienna, Austria

Principal Investigator, Econometric Modeling and Policy Research — August 2021 – March 2022

- Created econometric modeling algorithm for classifying economic and financial factors in NYC data; to be used to affect policies on financial recovery from COVID-19 in the Bronx.
- Selected by Alfred P. Sloan Foundation for research grant through "extremely rigorous" review.

Republic of Paraguay, Department of Public Contracting — Asuncion, Paraguay

Intern, Machine Learning — June 2021 – September 2021

- Predicted market prices of goods/services in Paraguay's public procurement process using R and Python.
- Used linear regression, random forest, XGBoost, generalized additive model, and elastic net regression; reduced RMSE to within 3 USD of actual prices. Final model implemented in Paraguay financial corruption investigations.

Echelon Insights (echeloninsights.com) — Washington, D.C.

Intern, Technology & Data Science — June 2020 – August 2020

- Created sentiment analysis models for business discourse using natural language processing and neural networks in Python; improved model accuracy from 15% to 60%. Scraped election data from 100+ congressional districts with BeautifulSoup.

MIT Computer Science & Artificial Intelligence Lab — Cambridge, MA

Intern, Functional Programming — June 2019 – July 2019

- Coded simulation property for Hemiola, a cache-coherence protocol design and proof framework, using Coq.

LEADERSHIP & PROJECTS

Investment & Sports Analysis Web Platform — Chicago, IL

Initiative Leader — November 2023 – Present

- Building accessible online platform for consolidation of financial and sports odds analyses, investing/betting opportunities, and related news. Using JavaScript (React) for website-building and HTML/CSS for design.

Harvard Open Data Project — Cambridge, MA

President — March 2021 – April 2022

- Led and managed 250+ members and $15k+ in funds; oversaw renovation and update of hodp.org.
- With Cambridge Open Data Program, organized annual datathon; led case competition with 150+ participants on analyzing housing market and affordability in Cambridge; reports presented to Cambridge zoning and housing staff.

VotrCrwd, IvyHacks Competition (votrcrwd.netlify.app) — Cambridge, MA

Project Leader — October 2020 – May 2021

- Implemented location API and frontend for voting location capacity and information website in React and Firebase.
- Won IvyHacks "Best Use of Google Cloud – COVID-19 Hackathon"; expanded at Google Cloud COVID-19 Hackathon.

Global Health Budget & Policy Visualization — Cambridge, MA

Project Leader — October 2020 – December 2020

- Created interactive webpage using JavaScript (D3) to visualize global health budgets for disease prevention.

SKILLS & INTERESTS

Technical Skills: Web Design (React, Node/Express, HTML/CSS), Data Analysis (NumPy, Pandas, Scikit-learn, MATLAB, SQL), Visualization (D3, p5), Machine Learning (Python, R), Systems (C++, Java), API Query (GraphQL), Agile Project Management.

Personal Interests: Applied Machine Learning, Web Design, Sports Analysis, Story Writing, Music Composition.