

Michael Zhao

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Education

Harvard University

Cambridge, MA

CANDIDATE FOR A.B. IN COMPUTER SCIENCE AND STATISTICS

Expected Graduation May 2025

- Relevant Coursework: Introduction to Computer Science, Probability, Vector Calculus and Linear Algebra
- Organizations: Harvard Data Analytics Group, Harvard College Economics Review Staff Writer, Harvard Computer Society, Datamatch, Harvard Financial Analysts Quant Club, Harvard Poker Club, Harvard Glee Club, Harvard Student Government Elected First-Year Representative

Lynbrook High School

San Jose, CA

VALEDICTORIAN; CUMULATIVE UNWEIGHTED GPA: 4.0/4.0, ACT: 36/36

June 2021

- U.S. Presidential Scholar, Coca-Cola Scholar, National Merit Scholar, Student Body President, Future Business Leaders of America (FBLA) National Officer
- Concurrently enrolled in Foothill College's CS Program: coursework in Advanced Data Structures & Algorithms in Java and Principles of Business
- Completed and earned a certificate in Coursera's Neural Networks and Deep Learning online course

Projects

Harvard Data Analytics Group

Cambridge, MA

ANALYST

July 2021-Present

- Developed subscription forecasting models using machine learning and time series analysis for a leading wellness app company. Generated statistical models using ARIMAX, Facebook Prophet, Python, and R, and delivered insights from analyzing subscription KPI data.
- Performed a data-driven analysis of <The Effects of Treatment Center Proximity on Opioid Overdoses in Delaware>. Used Python to analyze census and treatment center datasets of opioid overdoses in each state senate district in Delaware.

Datamatch

Cambridge, MA

WEB DEVELOPER

Sep. 2021-Present

- Programming web components for a free matchmaking service used by over 39,000 students from over 25 schools across the USA and Canada.
- Working in JavaScript/Node.js using React with databases and storage in Google Firebase.

Lynbrook High School Official App for iOS and Android

San Jose, CA

PROJECT LEAD AND SOFTWARE DEVELOPER

Mar. 2020-Present

- Built a smartphone application using Javascript and React Native for use by my high school's students on iOS and Android. Created a one-stop shop for school info and student body activities during remote learning.
- Led project from conceiving the idea and recruiting a team of student developers to the final implementation, official approval by the school district, and publication. Programmed app settings and rewards pages. Published on iOS App Store and Google Play Store with 1000+ downloads.

Early Diagnosis and Characterization of Sepsis Using Machine Learning

San Jose, CA

STUDENT RESEARCHER

Oct. 2019-Mar. 2020

- Developed machine learning-based tool for doctors to better predict sepsis onset in hospital patients, reducing mortality and healthcare costs.
- Used R to perform PCA, k-means clustering, random forest algorithms, and SVMs to determine which vital signs may be predictive of sepsis.

Work Experience

Boston University, Department of Biochemistry

Boston, MA

COMPUTATIONAL BIOLOGY RESEARCH INTERN, LIN LAB

June 2020-Aug. 2020

- Contributed to developing a machine learning-based de novo glycan sequencer at the Lin Lab, using computational biology and machine learning techniques to discover new ways of sequencing carbohydrates. Used Python and the pandas library to analyze various glycan spectra based on their mass spectra.

Honors & Awards

2020-2021 **Two-Time USA Biology Olympiad (USABO) National Finalist, Team USA Alternate**, Top 8 in the Nation

2020-2021 **Two-Time American Invitational Mathematics Examination (AIME) Qualifier**, Score: 8

2019 **USA Computing Olympiad (USACO) Gold Division**

2021 **Synopsys Science Fair 2nd Place in Biological Science and Engineering (Computational Biology)**

2021 **U.S. Presidential Scholar**, named as one of the most distinguished graduates by the U.S. Dept. of Education

2021 **Coca-Cola Scholar**, \$20,000 scholarship awarded to just 150 of 100,000 (0.15%) of high school seniors

Skills

Proficient: Java, Python

Familiar: C, SQL, R, JavaScript, HTML, CSS, React Native, Firebase