

Josh Zhang

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Education

Harvard University

Cambridge, MA

BA in Computer Science & Statistics || Secondary in Educational Studies || Chinese Citation

Expected 2026

Relevant Courses: Sports Analytics, Planning and Learning Methods in AI, Data Science I & II, Linear Modeling, Data Structures & Algorithms, Statistical Inference, Probability, Linear Algebra, Discrete Mathematics, Multivariable Calculus

Skills

Programming Languages: Python, Swift, C++, R, Javascript, MATLAB, SQL, Sci-Kit Learn, Next.JS, Tensorflow, Pytorch

Additional Skills: AWS Cloud Computing Services, OPIC Advanced Proficiency in Chinese, Blender, Fusion360, Solidworks, Photoshop, Premiere Pro, After Effects, Illustrator, Microsoft Office

Experience

Project CETI || *Research Associate*

Sep 2023 - Feb 2024

- Worked with Professor Daniel Vogt and Harvard graduate students to devise and develop various whale tag iterations aimed at enhancing tag resilience for monitoring whale health, activity, and environmental conditions

University of Virginia Electrical Engineering Department || *Research Intern*

Jun - Aug 2021

- Worked with Professor Steven Bowers and UVA graduate students to design and test four identical low-frequency wake-up receivers operating at nano-watt power levels, including one achieving 0.03 picowatts with a -105 dBm signal, making it approximately 100 million times more efficient than existing models

Projects

Arbitraider || Hacklytics

Feb 2025

- Utilized AWS SageMaker and S3 to deploy an algorithm that scraped real-time betting market data from Kalshi and Gamma APIs and used the OpenAI API to quantify market similarity and ensure successful arbitrage transactions
- Designed an intuitive interface to visualize market trends in real-time and implemented live query inference using the Grok API for dynamic insights

Caption Capturer || Personal Project

Jan 2025

- Published a multi-language Chrome extension utilizing the Web Speech API, Chrome Extension APIs, and virtual audio mixers to provide real-time, accurate speech-to-text captions
- Implemented a robust extension framework, including multi-language selection, a timeout-based overlay management system for captions, and an intuitive user interface that allows toggling captions, language preferences, and alerts users if website security measures restrict functionality

Monch || HackUTD || Pinata Platinum Sponsor Category || First Place Winner

Nov 2024

- Deployed a TensorFlow-based neural network leveraging the Food101 dataset to classify food items and identify ingredients, integrating USDA data to accurately predict macro-nutrient distribution
- Designed a front-end user interface enabling users to scan or upload meal photos and analyze progress through goal-oriented graphs

Climate Agriculture Food Data Project || HDSI Hackathon

Oct 2024

- Analyzed USDA/NASS 2022 Census data to examine the relationship between farmer age and agricultural productivity (1997–2022), using inflation-adjusted 2022 dollar values and raw dollar sales; identified a significant negative trend ($\rho < 0.01$) in southern regions and specific crop types through linear regression and choropleth maps

Extracurriculars

Datamatch || Web Developer

Oct 2024 - Present

- Spearheaded the development of Cupid, an interactive chatbot powered by the OpenAI Assistants API, featuring a custom pixel art-style front-end interface

WHRB || Sports Announcer

Sep 2024 - Present

- Provide live play-by-play commentary and in-depth analysis for Harvard basketball and football games, engaging listeners with dynamic coverage and real-time insights on radio station Cambridge FM 95.3

Asian American Association || Treasurer

Jan 2022 - Present

- Submit grant applications to all major student funding sources each semester, create detailed budgets for events, collect receipts, and reimburse expenditures

Harvard Sports Analytics Collective || Analyst

Oct 2022 - May 2023

- Analyzed sports data trends to write statistics-based articles and consult with various professional sports teams