

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: Data Science, 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: 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

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

- Designed and 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
- Developed 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

Virginia State Science and Engineering Fair || First Place || Environmental Engineering

Feb - Apr 2021

- Created the world's first applicable sound-based fire extinguisher using low bass frequencies to put out class A-D (universal) fires in a 5-foot radius, increasing efficiency by 400% compared to existing models

Extracurriculars

Datamatch || Web Developer

Oct 2024 - Present

- Collaborate within a team to enhance and maintain front-end functionalities of a large-scale matchmaking service by utilizing JavaScript, React, and Firebase to implement new features and improve user experience

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