Josh Zhang

612 Mather Mail Center, 10 Cowperthwaite Street, Cambridge MA 02138 JoshZhang@college.harvard.edu
(434) 328-0284 joshzhang.tech TheJoshZhang JZ-17

Education

Harvard University Cambridge, MA
BA in Computer Science & Statistics || Secondary in Educational Studies 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
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 || *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

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*
- Explored and analyzed USDA/NASS data from the 2022 Agricultural Census, examining the correlation between average farmer age and agricultural productivity from 1997 to 2022, measured by inflation-adjusted 2022 dollar values and raw dollar sales
- Applied linear regressions in Python and visualized findings utilizing choropleth maps, identifying a statistically significant negative trend between aging farmers and productivity across U.S. counties, with the strongest effects being observed in the southernmost regions ($\rho < 0.01$) and certain crop types

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
- Tested 108 different combinations of the extinguisher by manipulating variables of wave type, aperture size, and base frequency range (20-60 Hz) on a candle for maximum distance

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 Git 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