Allison Zhang

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Education

Tufts University *Sept. 2023 - May 2027*

B.S. in Computer Science; Minor in Mathematics GPA: 3.9/4.0

- **Relevant Coursework:** Software Engineering, Web Programming, Data Structures, Algorithms, Machine Structures and Assembly Language Programming, Database Systems, Machine Learning
- **Honors and Awards:** Dean's List (All Semesters)

Experience

Harvard Division of Continuing Education *January 2025 - Present*

EdTech Software Engineer *Immersive Classroom,* *Gather*

- Engineered educational software solutions supporting 10,000+ Harvard students across in-person and virtual classrooms, contributing to seamless hybrid learning experiences.
- Drove the development of student engagement platforms (Immersive Classroom, Gather), boosting accessibility and participation among remote students.
- Created an attendance tracking system aggregating thousands of students' records across multiple terms, ensuring compliance for federal financial aid eligibility.
- Authored 100+ automated end-to-end web application tests in Groovy using Katalon and Selenium, ensuring cross-browser compatibility across Firefox, Chromium, and WebKit.

Tufts University *September 2024 - Present*

Course Assistant for Web Programming, Computation Theory, and Machine Structures/Assembly

- Delivered personalized academic support and organized learning materials for 100+ students, enhancing comprehension and course outcomes.
- Engaged with faculty to streamline assignment grading and respond to student inquiries, achieving a 95% satisfaction rate on student feedback surveys.

JumboCode *September 2023 - May 2025*

Developer (Full-Stack) *BWQ Submission Platform*

- Spearheaded the development of a streamlined submission portal for Bi-Women Quarterly and an intuitive gift-giving portal for the WilyNetwork using React, TypeScript, and Clerk Authentication.
- Reduced administrative workload and improved submission processing efficiency by over 60%, giving staff real-time access to critical data through the portal.

Projects

Break Through Tech AI *May 2025 - Present*

Artificial Intelligence & Machine Learning Fellow

- Completed a comprehensive ML foundations course featuring industry leaders and technical experts from leading technology companies, building foundational knowledge in machine learning principles and applications.
- Developed and deployed a machine learning model achieving 70+% accuracy in predicting individual education levels using Random Forest Classifier with optimized hyper-parameters and curated feature selection.
- Collaborated in a five-member team to design and deploy ML models forecasting household energy consumption using a 2-million-row, 47-month time-series dataset, leveraging Python and MATLAB.
- Trained and evaluated multiple regression algorithms, reducing RMSE by 25% through iterative hyperparameter tuning and feature selection.

Universal Machine *April 2025 - May 2025*

Pair Programming Project *Repository*

- Designed and implemented a virtual machine architecture capable of parsing and executing binary program files.
- Devised register and segmented memory systems to support execution of 14 distinct instructions.
- Optimized performance with profiling and tuning tools, reducing program run-times by 50×.

First Spiritual Temple of San Francisco *May 2024 - July 2024*

Web Developer *Main Page*

- Modernized a San Francisco religious organization's website using HTML, CSS, and JavaScript to improve responsiveness, navigation, and accessibility.
- Led a team in a client-driven redesign process, increasing user engagement by 45% through a responsive, mobile-friendly layout and refined page organization.
- Partnered with stakeholders to implement custom client features for scheduling, contact, and belief sections, ensuring a user-focused experience.

Skills

Languages: C/C++, JavaScript, TypeScript, Java, HTML, PHP, CSS, Node.js, AJAX, React, Python, Groovy
Tools: VS Code, Git, GitHub, LaTeX, Scikit-learn, Pandas, GDB, Callgrind, KCachegrind, Selenium
Databases: MongoDB, MySQL