

Jiachi (Sophia) Zhao

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Education

Los Altos High School, Los Altos, CA

Class of 2026

GPA: 9-12: 4.33 weighted / 3.89 unweighted

10-12: 4.55 weighted / 3.82 unweighted

Selected AP/Honors Coursework: Multivariable Calculus; AP Calculus BC; AP Statistics; AP Computer Science A; AP Physics C (Mechanics & E&M); AP U.S. History; AP Chinese; AP Environmental Science; AP Human Geography; Biology Honors

RDFZ Chaoyang School, Beijing, China

Sep 2022 – Jul 2023

Research & Technical Projects

Resilient Anomaly Detection in Ocean Drifter Data

Jun 2025 – Present

Founder/Researcher

- Designed a hybrid anomaly detection system using DBSCAN, CNN, and LSTM data to identify abnormal ocean behavior from events like oil spills
- Designed data recovery and compression systems to improve monitoring reliability and support sustainable ocean data transmission.

AI Platform for Detecting and Relieving Emotional Distress on Social Media

Nov 2024 – Present

Researcher

- Designed and implemented an NLP pipeline (including transformer-based sentiment/context modeling) to identify early signals of emotional distress, balancing sensitivity and specificity for supportive interventions.
- A/B tested real-time intervention messaging; iteratively refined content using user feedback, increasing engagement with resources while minimizing negative response rates.

Boston University RISE Summer Program

Jun 2025 – Aug 2025

Participant, Data Science Practicum

- Conducted computational research integrating time-series analysis, statistical method benchmarking, and scientific software development under faculty mentorship through combined lectures and lab-based projects.
- Communicated findings via visual summaries and presentations, influencing recommendations on data handling and interpretation.

ESL Reading Accelerator App

Oct 2023 – Sep 2024

Founder / Developer

- Built an adaptive reading platform that scaffolds vocabulary acquisition via contextual hints and spaced repetition, leading to measurable gains in learner retention and reading fluency.
- Personalized difficulty in real time based on usage analytics, balancing comprehension and challenge to sustain engagement in pilot users.

Environmental Monitoring System with Arduino Sensors

Jul 2024 – Aug 2024

Developer

- Constructed a modular sensor network to capture air and water quality metrics; implemented a real-time dashboard with threshold-based alerts for anomaly detection.
- Engineered for low-power deployment and scalability, enabling multi-site potential with minimal maintenance overhead.

COSMOS: Computers in Everyday Life

Jul 2024 – Aug 2024

Participant, UCSD California State Summer School for Mathematics and Science

- Explored applied computing through hands-on projects, emphasizing usability and data-driven decision-making.
- Collaborated with peers to prototype solutions, integrating iterative feedback to improve accessibility and practical value.

Leadership & Extracurricular Activities

Machine Learning & Math Club, Los Altos High School

Vice President, Feb 2024 – Present

- Led machine learning initiatives, including steering the development of a personalized English reading tool for ESL learners; coordinated weekly ideation and mentored new members through prototype iteration.
- Organized and delivered technical workshops that increased club members' fluency in data science concepts and practical tool usage.

Women in STEM Club

Aug 2023 – Present

- Supported events to elevate visibility of women in science and technology, coordinating speaker panels and peer outreach to broaden participation.
- Facilitated mentorship connections between underclassmen and women in technical fields, improving retention in club activities.

Teaching & Mentorship

Aug 2023 – Present

- **English for Chinese Club / Cultural Language Instruction:** Designed and taught leveled weekly lessons to underprivileged students in China and American-adopted Chinese children, adapting pedagogy to diverse language proficiencies and cultural contexts; incorporated feedback to refine curriculum.
- **Peer Tutor:** Served as a teaching assistant in AP Statistics class; Provided tailored tutoring in math and Mandarin by diagnosing conceptual gaps and crafting individualized practice, resulting in improved student performance and confidence.

Athletics & Coaching

Sailing

Jul 2018 – Present

Assistant Coach & Sailor

- Holds Royal Yachting Association certifications including Start Racing, Seamanship Skills, Spinnaker Sailing, Performance Sailing, and Powerboat Handling; applies advanced techniques to coach junior sailors.
- Developed and implemented training plans incorporating performance feedback to improve race readiness and safety awareness among beginners.

Girls Varsity Softball, Los Altos High School

Pitcher & Left Field, Feb – Jun 2024 & 2025

- Trained 2+ hours daily while balancing rigorous academics; contributed to team reaching Central Coast Section semifinals.
- Supported team strategy through data-informed practice adjustments and peer leadership in skill drills.

Honors & Awards

- AP Scholar with Distinction, 2025
- AP Scholar Award, 2024
- Selected Competitor, MIT Math Prize for Girls, 2024
- AIME Qualifier (Top 1% nationally on AMC 10; AMC 12 score: 114), 2024