

EVAN ZHANG

San Jose, CA evan.r.zhang@gmail.com 408-333-1816

EDUCATION

The Harker School, San Jose, CA

Expected Graduation: May 2026

- **ACT: 36**
- **Advanced Topics Courses:** AP Calc BC, AP Physics 1, AP Chem, AP Euro, AP CSA, AP Chinese, AP Physics C Mech, AP Physics C E&M, AP US History, AP Stats, AP Env. Science, AP US Gov, AP English Lit, Honors Linear Algebra, Honors Multivariable Calculus, Honors Discrete Math

PUBLICATIONS

- Omnimobile Pneumatic Load Capable Soft Robot for Gas Distribution Pipeline Inspection (IEEE Robosoft 2025, April 2025, Full Oral Talk) Evan Zhang, Eddie Zhang
- Gas Pipeline Leakage Detection Based on Multiple Multimodal Deep Feature Selections and Optimized Deep Forest Classifier (Frontiers in Environmental Science, April 2025) Eddie Zhang, Evan Zhang
- Mitigating Low-Speed Crawling and Jitter in Telescopic Hydraulic Cylinders Through Stick-Slip Dynamics Analysis and Friction Reduction Strategies (Journal of Tribology, 2025) Zeyu Ma, ... Evan Zhang
- SPIRo: An AI-Based Origami-Inspired Soft Robot with Multidimensional Locomotion and Multimodal Data Analysis for Infrastructure Assessments (IEEE CCDC, May 2024) Evan Zhang, Eddie Zhang
- Development of A Multimodal Deep Feature Fusion with Ensemble Learning Architecture for Real-Time Gas Leak Detection (IEEE ICMI, April 2024, Won Best Paper Award) Eddie Zhang, Evan Zhang
- 3D-Printed HASEL Actuators With Integrated Fluidic Piezoresistive Pressure Sensor for Cardiac Assist Applications (ICMSR 2025) Evan Zhang, Alex Chortos
- Patent #19/274609: SPIRo: An AI-Based Origami-Inspired Pneumatic Soft Robot with Multidimensional Locomotion and Multimodal Deep Feature Selection and Fusion with an Improved Deep Forest Classifier Architecture for Real-Time Gas Pipeline Leak Detection

RESEARCH, ENTREPRENEURSHIP, PROJECTS

Research Intern, Chortos Lab at Purdue University

June 2024 - Present

- Developed AI-controlled HASEL actuators for cardiac assist devices, integrating pressure sensing and FEM modeling to optimize control and response.
- Pioneered a new Direct Ink Write (DIW) 3D printing method utilizing thermally elongated nozzles for multi-material polymer fabrication.

Paid Research Intern, The Faboratory, Yale University

- Built a shape-morphing amphibious robot with variable stiffness limbs, enabling adaptive locomotion.
- Proposed a deep-water capable robotic turtle, designed high-pressure waterproof casings for motors.

Researcher & Start-up CEO: Enviro-AI, Soft Robots for Infrastructure Inspection

June 2023 - Present

- Design of an AI-based pneumatic soft robot for pipe inspection in hazardous environments.
- Pneumatic and modular Soft Robot with a novel ensemble learning algorithm for inspecting gas leaks.
- VC-backed start-up Enviro-AI, received the 1517 Fund Medici Grant, Patent-Pending.

Electrical Engineering Intern, Schnitzer Lab at Stanford University

Dec 2022 - Present

- Designed circuit schematics and PCBs for sensing and control of experimental apparatus used across the lab.
- Design an omnidirectional motion tracker for mouse movement, fabricated and built a 1P microscope.
- Designed a 3-degree-of-freedom adjustable side illumination system for microscopes
- Built storage architecture for logging captured images.

EXTRA-CURRICULAR ACTIVITIES

Co-founder, Cream of the Crop 501 (c) 3 Non-Profit Organization, G9-12

Aug 2021 - Present

- Delivered classes and summer workshops in software, robotics, 3D design, and RC aircraft for 40+ students.
- Donated \$4.5K in STEM kits, led workshops at Title I schools in the Redwood City District, providing 60+ students with access to applied STEM learning. Hosted a district-wide LEGO Robotics League and classes.
- Tennis clinics and lessons for 20+ beginner and intermediate players.

Founder and President, Harker 3D Printing and Design Club, G11-12

June 2024 - Present

- Founded and scaled the club to 60+ members, organized challenges and competitions within the club.
- Taught classes on CAD Design and Print Slicing, trained members on the 3D printer.

Co-President, Harker Aerospace Club, G9-G12

Aug 2024 - Present

- Founded and led 2 teams to compete in the American Rocketry Challenge, grew the club to 70+ members.
- Secured \$2.5K in institutional funding through formal pitches and proposals to school administration.

FTC 11311 Paragon (Mechanical Director)/FRC 1072 Harker Robotics, G9-10

Aug 2021 - May 2024

- Ranked Top 80 nationally, qualifying for the Tournament of Champions in Public Forum debate.
- Coached incoming 10+ freshmen and middle school students at practices, intramurals, and tournaments.

Captain and Coach, Harker Varsity Debate Team

Aug 2022 - Present

- Ranked Top 80 nationally, qualifying for the Tournament of Champions in Public Forum debate.
- Coached incoming 10+ freshmen and middle school students at practices, intramurals, and tournaments.

Founder, Enabling The Future Chapter

- Established a 4-member team designing prosthetics, delivered customized devices to patients in need.

Founder, 3DSolutions.shop

- 3D printing business, designing and fabricating custom hardware, generating \$1K in revenue.

HONORS/ACADEMIC ACHIEVEMENTS

- **Coca-Cola Scholars Semifinalist** (September 2025)
- **International Science and Engineering Fair (ISEF) Finalist & Grand Prize 4th Place** (May 2025)
- **California State Science Fair 2025** Category 5th Place (April 2025), Kindeva Innovator Award
- **Pete Conrad Scholar**, Energy and Environment Category, Conrad Challenge 2025 (April 2025)
- **Diamond Challenge** Finalist 2025 (March 2025)
- **Tournament of Champions** Qualifier (2025)
- **Sigma Xi 2025 Student Research Showcase** 1st Place in High School Division (May 2025)
- **Nor. Cal. Junior Science and Humanities Symposium 2025**, Second Place in Chemistry (February 2025)
- **Synopsys Science Fair** Santa Clara County Grand award, Category 1st award, ASEI special award (2025)
- **National Junior Science and Humanities Symposium** Finalist 2024, National Oral Presentation Project
- **Synopsys Science Fair** Santa Clara County 2024 Category 2nd Award, IEEE special award
- **1517 Fund**, Medici Grant of \$1k for SPIRo & Enviro-AI
- **AIME Qualifier** (2024, 2025) with Distinction (2024), **USACO Silver** Qualifier (2024)
- **TSA TEAMS** Competition Nationals Qualifier (2023, 2025)
- **FRC World Championship Qualifier Team**, FTC NorCal Regionals Finalist (2023)
- **Presidential Volunteer Award** Gold & Bronze (2023, 2024)
- **Scholastic Writing Silver Key** (2023, 2024)

SKILLS

Onshape, Fusion 360, KiCad, 3D printing, OpenRocket, Ansys, CNC, Java, Python, Wolfram Mathematica, LaTeX, Labview, TensorFlow, OpenCV, MyRIO, Arduino