

# Steve Zhang

High School Senior at Francis Parker School | Researcher at UT Austin | Founder of SiliconSmiles4Kids

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## EXPERIENCE

### UT Austin Developmental Intelligence Lab — Cognitive Science Researcher

2023 - PRESENT

- Analyzed child learning during reading sessions and published *Multimodal Social Cues Drive Infants' Attention in Parent-infant Picture Book Reading* at the IEEE International Conference on Development and Learning (ICDL), 2024
- Integrated 3D reconstruction of human skeleton tracking into the lab data analysis pipeline
- Optimized workflow configurations for high-performance machine learning training

### UI Secondary Student Training Program — Material Science Researcher

2024 - PRESENT

- Developed a system using a Teensy, IR LEDs, and photoresistors to measure the speed of a split Hopkinson bar. Programmed with Arduino C
- Created sugar-based polymers with injection 3D printing to mimic explosive powders and adjust their sensitivity
- Analyzed deformation and heat distribution of these polymers under high impact using the split Hopkinson bar and high-speed camera

### Freelance Videographer

2021 - PRESENT

- Edited advertisements for Airstream RVs. Met with clients to review details, specifications, and areas to highlight.
- Worked with SV Capital Real Estate to edit advertisements and informational videos.
- Each commission was \$200.

## VOLUNTEERING

### SiliconSmiles4Kids — Founder & President

2023 - PRESENT

- 501(c)(3) providing STEM equipment and education in underserved communities
- Restored old computers and assembled new computers to donate
- Collaborated with Solutions for Change (local homeless shelter) to establish a computer lab for the children. Provided PC and robotics sessions to the children.
- Received \$4500 in funding from the Qualcomm Foundation
- Raised \$1700 from Thanksgiving Run campaign

### 23280 C.A.R.T. Rookie FTC Team — Mentor

2023 - PRESENT

- Provided weekly training sessions for 3D design(SolidWorks and OnShape). Emphasized the engineering design process
- Provided suggestions for the parts design of the robot
- Inspired next generation to love robotics and shared my FRC and ARC knowledge
- Guided team through their first year in FTC

## SKILLS

Java, Python

Web and mobile app development

CAD and SolidWorks

3D printing with PLA, ABS, PETG, TPU, PC, ASA, and Carbon-Fiber-Reinforced materials

## HONORS & AWARDS

2023 -2024 Greater San Diego Science and Engineering Fair

First Place in Behavioral Science

San Diego Psychological Association First Place Winner Award

2024 California Science and Engineering Fair

Honorable Mention in Behavioral Science

STEM-ED ARC Drone Coding Competition

2022: National First Place

Aerospace Robotics Competition

2023 Second Place in San Diego Regional

2024: Design Award in San Diego Regional

Francis Parker Academic Pin Physics

2023, 2024

Francis Parker Honor Roll

2021, 2022, 2023

Francis Parker Varsity Tennis MVP

President's Volunteer Service Award Gold (2022)

## Escondido Education COMPACT Youth Court — *Student Attorney*

2021 - PRESENT

- Completed Student Attorney training and certification
- Represented student cases during monthly court hearings and worked with judges to provide paths for correction and future improvement of juveniles.
- Conducted pre-court hearing meetings with juveniles and provided advice for their correction paths.

## Mara Conservation Fund — *App Development*

2023 - PRESENT

- Participated in developing an iOS app prototype with a Firebase backend to assist with animal research in Kenya.
- Mainly focused on front-end UI design and implementation.

## San Diego Science Fair Student Leadership Board — *member*

2024 - PRESENT

- Helped organize the student science fair activity.
- Media photographer
- Promoted science fair in the school district

### LICENSES AND CERTIFICATIONS

## Certified SOLIDWORKS Associate - Dassault Systemes

2022

### EDUCATION

## Francis Parker School, San Diego — *Grade: 12*

2021 - 2025

Activities and Societies: Founder & President of Physics Club | FIRST Robotics Competition (Team 2485) - Officer of Controls | Varsity Tennis Team - MVP | Asian Student Heritage Club | Aerospace Engineering Club | Admissions Ambassador | TA for AP Physics C

## Coursera

2022 - 2024

HTML, CSS, and JavaScript for Web Developers – *Johns Hopkins University*

Python Data Structures – *University of Michigan*

Python for Data Science, AI & Development - *IBM*

Introduction to Large Language Models - *Google Cloud*

### PATENT

## Audio/video outroduction by reusing content from introduction and other parts, US 2022-0262407 A1, pending grant

2022

### LANGUAGES

English - Native proficiency

Chinese - Native proficiency

Spanish - Limited working proficiency

### AP Courses

AP Calculus BC - 5

AP Computer Science A - 4

AP Human Geography - 5

AP Physics 1 - 5

AP Physics 2 - 5

AP Physics C: Mechanics - 5

AP United States History - 5

2023 AP Scholar

2024 AP Scholar with Distinction