

# Tang, Zijia (Thomas)

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## EDUCATION

Guangdong Experimental Middle School  
Guangdong Experimental High School

Sept 2020 – July 2021  
Sept 2021 – Present

## LEADERSHIP EXPERIENCE

### Postpartum Depression Care Application | Founder, CEO, CTO

April 2022 – Present

- A Java-based Android software to help moms suffering from postpartum depression.
- Designed to offer online support groups, content sharing, moderated forums, assessment tools, and professional guidance from licensed psychiatrists and therapists.
- Connected and supported more than 100 moms and still growing; received 21 feedback and an average review of 4.5 in our beta test.

### HIMCM Club | Founder, President

Sept 2021 – Present

- Started the club to bridge gaps in access to contest resources, held lectures on computational and mathematical techniques for club members.
- Organized weekly discussions on modeling strategies, fostered team collaboration on problems.
- Aimed to provide engaging, if not the most interesting, lectures in school to spark passion.
- Provided a monthly TED talk on cutting-edge topics such as neural networks and anti-matter.

### Science & Technology Engineering Club | President

Sept 2022 – Present

- Organized various engineering projects such as designing and building robotic vehicles.
- Tripled the size of the club to 91 members; Coached 18 teams for S.T. Yau High School Science Award; arranged mock presentation sessions 3 times where I acted as the judge, offered feedback, and explored collaboratively how to explain research topics in 3 minutes effectively; 2 teams gained regional awards, and one team qualified for national finals.

### Peer tutoring program | Founder

Sept 2023 – Present

- Recruited top students of higher grades to provide lectures on their favorite subjects in the night studying period and answer students' questions when teachers' support is not available.
- Established a learning resource database to which each tutor could contribute, including curriculums, practices, readings, interesting materials... Mitigated the effects of inconsistencies in teaching resulting from high teacher turnover rates.

## PUBLICATION

### *PINet: Privileged Information Improve the Interpretability and Generalization of Structural MRI in Alzheimer's Disease* | Independent researcher | First Author

May 2022 – Present

- Designed a novel deep-learning model for early Alzheimer's detection using CNN and transformer, resulting in an accuracy of nearly 96%.
- Accepted as a rapid-fire paper by the ACM-BCB conference, an honor awarded to the top 25% of accepted papers.

### *scPerb: single-cell perturbation via style transfer-based variational autoencoder* | Independent Researcher | First Author

- Created a new framework to predict cellular responses to perturbations, utilizing computational tools to be more economically friendly and less labor-intensive than traditional methods.
- Combined style-transfer and variational autoencoder, resulted in an accuracy of over 99.5%, outperforming all of the state-of-the-art methods.

## PROJECTS

### Youth Observation Contest (YOC)

May 2022 – Sept 2022

- Intrigued by what's beneath the stereotypical understanding of Chaoshan culture and determined to uncover nuanced reasons why even under the culture of strong preference for boys over girls, women still rate their happiness high and have an extremely low divorce rate.
- Initiated a research study, conducted 240 surveys, and analyzed how entrenched gender roles, family-centric values, and social stigma collectively contributed to the lowest divorce rate in all of China.
- Wrote a report: Recasting the Mirror in The Hand of Venus - Awakening Chaoshan Women's Self-awareness.

### China Think Big (CTB)

Dec 2021 – May 2022

- Started a research project examining irrational consumption behaviors and susceptibility to financial fraud among the elderly.
- Designed questionnaires and reached out to elders of different demographic groups. Discussed the mechanism and prevalence of scams among vulnerable communities and ways to prevent it.

#### **Auto Calendar Application**

March 2023 – Present

- Our school's complex dynamic class schedule is only offered as an Excel sheet containing all classes provided, making it extremely difficult to search for classes among hundreds of blocks.
- Created a Python-based calendar program that addressed students' challenges with frequently changing class details and being late or attending the wrong class.
- The app automatically shows a student's class location and time and can generate an iCalendar file and set alarms 5 minutes before the class starts as a reminder.
- Received 30 stars on GitHub, and more than 60 unique users have used our program.

### **EXTRACURRICULAR**

#### **American Literature and AP Calculus AB | Teaching Assistant**

Sept 2021 – Present

- The first-ever teaching assistant in my high school, aiming to be the bridge between teachers and students and encourage more students to assume this responsibility.
- Stepped up to solve academic challenges caused by the high turnover rate in our school (in the first month of my studies at my high school, we changed three Calculus AB teachers)

#### **ICU of Cihui Hospital | Volunteer**

July 2022 – Present

- Volunteered at the elder's ward of Cihui Hospital bi-weekly.
- Witnessed diseases, trauma, and death, witnessed volunteers who encouraged relatives of the deceased to donate their organs endure discrimination and rage, witnessed a son delay his father's death by 20 minutes to receive one more month's pension outside the ICU.
- Became more aware of social classes and norms and more appreciative of life.

#### **Band | Singer and Drummer**

Continuous since Grade 5

- Learned and practiced opera singing for 4 years, pop songs for 2 years, and rap for 2 years.
- Enjoy powerful forms of self-expression and forming a connection with the audience in those moments of rapture. Forming a band currently to play resonating pop songs. Performed drum solo *She Will Be Loved* at the local Hesheng Mall.

### **AWARDS AND HONORS**

Honor Roll of Distinction (Top1%), American Mathematics Contest 12(AMC12) score 139.5	Nov 2022
American Invitational Mathematics Examination (AIME), 13 points	Feb 2023
Qualifier, USA Mathematical Olympiad (USAMO)	Feb 2023
Qualifier, Platinum, USA Computing Olympiad (USACO)	Apr 2022
Second Prize, National Olympiad in Informatics (NOIP)	Dec 2021
Second Award, S.-T. Yau High School Science Award (Computer Science)	Nov 2022
Global Top 100 and National Gold, Physics Bowl	Mar 2022
Global Gold, British Physics Olympiad (BPhO) Intermediate Physics Challenge	Mar 2022
Prize Award (Top 0.3%), Australian Mathematics Competition	Sept 2021
Third Award, China Thinks Big Challenge (CTB)	Dec 2021
National Top Gold, Math Kangaroo (Level 5)	Jun 2022
Youth Silver Medal, International Invention Exhibition, Pittsburgh, PA, USA	Aug 2022
Honorable Mention, Youth Observation Contest	Aug 2022
Computer Software Copyright Certificate: "Worry-Free Pregnancy" App	Nov 2022
Honorable Mention, High School Mathematical Contest in Modeling (HIMCM)	Feb 2023

### **STANDARDIZED TESTING**

**SAT: 1590** (EBRW:790 Math:800)

**TOEFL: 116** (Reading 30 Listening 30 Speaking 26 Writing 30)

#### **AP Exams (12 5s and one 4)**

Biology	5	Calculus BC	5
English Language and Composition	5	Microeconomics	5
Physics C: Electricity and Magnetism	5	Psychology	5
Statistics	5	Environmental Science	4
Calculus AB	5	Chemistry	5
Computer Science A	5	Macroeconomics	5
Physics C: Mechanics	5		

## Scholarships

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Full-ride Scholarship Sep 2021 – Present  
Awarded a scholarship of 660,000 yuan in recognition of academic excellence, covering all my tuition.

Top of Class Scholarship Jan 2023  
Earned a prestigious scholarship of 8,000 yuan for achieving the highest academic rank in the graduating class.

Academic Excellence Scholarships Jan 2022 – Present  
Received a total of 12,000 yuan in five separate scholarships for consistently achieving outstanding scores in standardized exams and other competitions.