

Ryan Zhang

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Education and Test Scores

Sycamore High School, 7400 Cornell Road, Montgomery, OH 45242

Expected Graduation: May 2024

GPA: 3.96 Unweighted / 4.51 Weighted

Class Rank: Top 2%

Extracurricular Activities

Yale Young Global Scholars

June - July 2022

Selected for Information in Science & Technology Session 1 (IST 1) at Yale University

- Attended lectures on a variety of topics in STEM, including astrophysics, cell biology, the birth of a virus, cognitive neuroscience, and environmental sustainability.
- Wrote a review on the cognitive function of the brain and computational modeling in interactive robots to influence the social behavior of infants: how human-robot interaction impacts the decision-making of the child, and the psychological effects of machine learning. Presented to my session of students and professors.

University of Cincinnati Health Career Journeys program

October - March 2023

University of Cincinnati College of Medicine

- Selected for a 6-month long medical program at the University of Cincinnati College of Medicine to explore clinical and medical careers and interact with members of healthcare disciplines.
- Shadowed internal med, pediatric, and dental physicians.
- Listened to and engaged with experts in neuroscience, nursing, and therapy.
- Explored state-of-the-art nursing manikins in the College of Nursing.
- Learned how to prepare and perform tooth fillings in the School of Dentistry.
- Discovered how pharmacists communicate with nurses to prescribe medications in the College of Pharmacy.

Piano

2014 - Present

- Competed in multiple regional and international competitions.
- Honorable Mention in 2019 Ohio Music Teacher Association State Buckeye Audition
- Awarded first place in Movement 2 and second place in Movement 1 in Intermediate Division in the 2020 Julia Bartles Concerto Competition.
- Second place honor in the 2022 Crescendo International Competition (out of 2000 performers).
- Invited to play at Carnegie Hall in 2022.
- Honorable Mention in the American Protege International Competition in 2022.

- Completed and passed Royal Conservatory of Music (RCM) Levels 1-9.

Soccer

2012-2021

Played soccer in the local club and high school soccer team

- Played for Sycamore Premier soccer club between 2015-2020
- Selected for the Sycamore High School JV soccer team in 2020 and 2021.
- Competed in multiple regional tournaments.

Research Experience

Science Internship Program

May - August 2023

University of California Santa Cruz (UCSC):

- Conducted research on artificial neural networks and the brain's decision-making with postdoctoral researcher Dr. Pooneh Sayayenikoo and Professor Andrew Quinn
- Learned how to calculate neural network pathways including forward pass, gradient descent, and backpropagation.
- Implemented a personal neural network from scratch using Python.
- Presented "Implementing Neural Network from Scratch and Using Library" at the SIP symposium in August 2023.

Lab Research Assistant

January 2023 - Present

University of Cincinnati College of Pharmacy

- Assists a postdoctoral researcher, Bruna da Silva Soley in the College of Pharmacy to explore the mechanism underlying drug resistance in melanoma patients treated with targeted therapy agents.
- Attends lab meetings and engages in research discussions.
- co-authors a research presentation poster at the University of Cincinnati Cancer Metastasis Research Symposium reporting the findings.

Research Internship

January – May 2022

University of California San Diego

- Attended lectures taught by Dr. Robert Clark, Professor of Psychiatry, at UC San Diego Medical School.
- Researched amnesia, including its causes, types, diagnosis, treatment, and prevention.
- Published a first-author review article in Journal of Student Research, titled "*Brain, Memory, and Amnesia*".

The Missing Synapse Podcast

August 2022-Present

- Founder and developer of the podcast themissingsynapse.com
- Discussed many topics related to neuroscience and the brain in podcasts.
- 15 current episodes which average 25-50 listeners per episode.

- Hosted a virtual music concert for the elderly as part of the partnership with Melodies as Medicine. Recording distributed and played in multiple senior living communities.

Leadership activities

Chair and Founding member of GCCCEA Youth Program **2020 - Present**

Greater Cincinnati Chinese Cultural Exchange Association (GCCCEA, <https://gcccea.org>)

- Founding member of the GCCCEA Youth Program, a 501(c)(3) nonprofit organization.
- Chair of the Youth program between Sep 2022 - August 2023
- Director of technology between Sep 2020 - present.
- Creator of the Youth Program website (gcccea.org) and host of the Finding Asia in America podcast on Spotify.
<https://open.spotify.com/show/2jHaObx7Ixzo1IvZoyngjg?si=3bdca2e0fc0c4698>.
- Emcee'd and assisted in organizing the citywide recognized Cincinnati Moon Festival in 2021 and 2022.
- Raised over \$2,000 at the Cincinnati Asian Food Fest in 2022 & \$5,000 in 2023.
- Led the 9th annual Youth Leadership Workshop, which utilized food as a bridge to share cultures and was attended by over 50 students.
- Impacted over 100k people (10k in person & 100k via social media).

Interviewer & Editor

December 2022 - May 2023

Greater Cincinnati Chinese Cultural Exchange Association Cookbook

- Completed multiple interviews and collected stories and recipes from over 50 different ethnic members in the local community.
- Published the GCCCEA Youth Cookbook which aims to celebrate regional diversity and unite cultures. Received in the Library of Congress.
- 300 books sold to students, parents, and local organizations.

Science Olympiad Club President

August 2021 - Present

Sycamore High School

- Voted president in 2022.
- Expanded the team by 60 members between 2021 and 2023.
- Started initiatives in the Sycamore Junior high school to start a junior team.
- Awarded fifth place in Experimental Design (out of 18 teams) in 2023.
- Competing for a state championship spot.

Community service activities

Pathology lab Volunteer

June 2023 - Present

Jewish Hospital

- Pathology Lab Volunteer (50+ hours, 4 hours/wk).
- Sort, organize, and file lab slides.

- Assist technicians with frozen sections.

Front Desk Volunteer

June 2022 - Present

The Jewish Hospital

- Front desk volunteer (70+ hours, 4 hours/week).
- Greet and check in visitors.
- Aid nurses with visits and interact with patients.

Front Desk Volunteer

February 2021 - Present

TriHealth Bethesda North Hospital

- Front desk volunteer (200+ hours, 4 hours/week).
- Greet visitors and assist them to their rooms.
- Help transport patients in wheelchairs.

Math Tutoring

June 2020 - Present

Blue Ivy Learning (<https://www.blueivylearning.com/>)

- Tutor 3rd and 4th graders weekly on different math topics (200+ hours).
- Over four years, tutored approximately 40 different students.

Honors & Awards

- **Research Poster Presentation at the University of Cincinnati Cancer Metastasis Research Symposium** - Oct 2023
- **Presidential Volunteer Service Award** - Gold Level Recognition 2023 & 2022, Bronze Level Recognition 2021
- **National Merit Semifinalist** - 2023
- **National Class Essay Competition** - Gold Level Recognition - Heritage Speaker Category (2021, 2022), Silver Level Recognition (2020)
- **National Honor Society** - Inducted 2022
- **AP Scholar Award** – 2022
- **AP Scholar with Distinction Award** - 2023
- **Crescendo International Piano Competition** - Second Place Honor 2022
- **Bethesda North Volunteer Pins** – Certify 100 & 200 hours of service.
- **ArtsWave Catalyzing Impact Grant** – GCCCEA Team recipient \$6,000
- **American Protege International Piano Competition** - Honorable Mention 2022

Skills

- Javascript & Python, Microsoft Office, video & audio editing, building websites (Wordpress, Wix, and Canva)