

Evan Xiang

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An enthusiastic high school student actively seeking an opportunity to join a research program in the field of Molecular and Cellular Biology.

EDUCATION

Shady Side Academy Senior School, Pittsburgh, PA

Sep 2022 – May 2026

Sophomore GPA: 4.0/4.0, Overall GPA: 3.94/4.0

Relevant Advanced Coursework: AP Computer Science (CS550), AP Calculus BC (MA570), Advanced Biology (BI400), AP Biology, AP Chemistry, AP Environmental Science, Introduction to Bioengineering (OCW), Biomechanical Tissue Engineering (OCW), Molecular and Cellular Pathophysiology (OCW)

AWARDS AND HONORS

USA Biology Olympiad (USABO) Semifinalist - 23rd/4360 Test Takers

First Place PJAS Region 7 – Biology Category - CardioGuardian

Feb 2024

USA Biology Bowl Semifinalist

Oct 2023

National Science Olympiad Tournament at Wichita State University

May 2023

- Team Captain – Led the team to an 8th-place finish (best PA team)
- 2nd place in Storm the Castle (Trebuchet)
- 4th place in Meteorology
- Top 10 in Anatomy and Physiology, Roller Coaster, Flight, and Experimental Design

State Science Olympiad Tournament at Penn State Altoona

April 2023

- Team Captain - Led the team to National Qualification, placing 2nd in the State
- 1st place in Meteorology
- 1st place in Experimental Design
- 2nd place in Flight
- 2nd place in Anatomy and Physiology
- 3rd place in Storm the Castle

National Science Olympiad Tournament hosted by Caltech (Virtual Event)

May 2022

- Team Captain – Led the team to an 11th-place finish
- 3rd place in Experimental Design
- 5th place in Sounds of Music
- 5th place in Electric Wright Stuff
- Top 10 in Meteorology

State Science Olympiad Tournament at Penn State Altoona

April 2022

- Team Captain - Led the team to National Qualification, placing 2nd in the State
- 1st place in Meteorology
- 1st place in Electric Wright Stuff
- 2nd place in Storm the Castle
- 3rd place in Dynamic Planet
- 3rd place in Sounds of Music
- 4th place in Experimental Design

Rocketry National Qualifier by the American Rocketry Challenge

March 2022

2nd Place of National MYSO Solar Power Exam

Recipient of 130 medals (Top 10) in 15 Science Olympiad Regional/National Invitationals

Recipient of 30 medals (Top 1) in 4 Regional Science Olympiad Tournaments

ACADEMIC ACTIVITIES AND CLUBS

- Science Departmental Associate 2023 – Present
- As a departmental associate, part of a group of 8 students who bring a student voice to faculty meetings, represent the Science Department at school events when needed, participate in peer tutoring program, and help with promoting science opportunities on social media.
- Science Olympiad Team Captain 2021 – Present
- Lead a team of over 60 students to compete at various invitational, regional, state, and national-level tournaments.
 - Organize team-building activities
 - Help plan out team practices, planning out study sessions, build reservations, and tournament registration.
 - Help organize a 7-day trip to the 2023 National Science Olympiad Tournament, working closely with coaches to plan all aspects of booking.
- SSAHacks Co-Director 2023 – Present
- Planning and directing a hackathon with over 200 participants on the Shady Side Academy campus.
 - Sponsored by DocLens.ai and the University of Pittsburgh Department of Rehab Science and Tech.
 - Hackathon focusing on assistive technologies with the top prize being \$300 and development of their project with a professor.
- Silicon Director of Operations 2023 – Present
- I serve as Director of Operations for Silicon, an initiative started by my friends and I to combat issues with poor computer science education at both our school and around the region.
 - Our motive is to Compute, Connect, and Innovate, with SSA.Hacks() being our first outreach event.
 - Future plans involve the implementation of curricular development and implementation, other assistive technology projects, or the development of a computer funding program.
- Members of Speech and Debate, Science Fair, and Varsity Swim 2023 – Present

PERSONAL PROJECTS

CardioGuardian: A Novel ECG Based Diagnostic Pathway for Early Detection of Sudden Cardiac Arrest (SCA) 2023-2024

- Developing a comprehensive screening system that can efficiently and economically screen athletes across various levels of competition such as high-school sports teams, for contributory disorders to sudden cardiac arrest.
- Utilizing PyTorch and PyTorch Lightning to develop a novel algorithm and device that rapidly upscales and classifies pathology derived from a simple, cost-effective ECG device to mitigate the cost associated with the IOC-recommended 12-lead ECG-based method. Publicly available datasets from 43,231 individuals, with 50% of them having contributory disorders, are used to validate the algorithm.
- Designed custom classification algorithm using feature extraction via stacked auto-encoders and linear greedy algorithms
- Work was submitted to PJAS (1st Prize Regional Competition), JSHS (TBD), and PRSEF (TBD)

VOLUNTEERING EXPERIENCE

Meteorology Volunteer Teacher

Revolution Stem Initiative

Jun 2023 - Jul 2023

Assisted in writing a test as well as the creation of slideshow resources for a middle-school science immersion summer camp
https://docs.google.com/presentation/d/1Q7zS-2TS0LSiv0xOLQpjveS9EMzc5hKV21_6t9je4nM/edit?usp=sharing

Dodgen Science Olympiad Invitational Event Supervisor

Science Olympiad, Inc.

Oct 2022 – Oct 2022 · 1 month

Science and Technology

I was invited to be writer for Meteorology B at the Dodgen Science Olympiad Invitational.

Rickards Science Olympiad Invitational Test Writer

Oct 2022 - Present · 1 yr 5 mos

Science and Technology

To support the Science Olympiad community and share my own passions in STEM, I wrote three tests for the Rickards Science Olympiad Invitational: Meteorology B, Experimental Design B, and Experimental Design C.

Boyceville Invitational Test Writer

Nov 2021 - Present · 2 yrs 4 mos

Science and Technology

I volunteered to write the Sounds of Music B exam for the 2022 Boyceville Invitational, and I also wrote the Meteorology B exam for the 2021 tournament.

Sierra Vista Science Olympiad Invitational Test Writer

Mar 2022 - Apr 2022 · 2 mos

Science and Technology

I was invited to be a co-writer for Meteorology B at the Sierra Vista Science Olympiad Invitational.

University of California Davis Invitational Test Writer

Feb 2021 · 1 mo

Science and Technology

I volunteered to write Meteorology B and Storm the Castle B for the 2021 UC Davis Invitational.

Lexington Invitational Test Writer

Apr 2021 - Present · 2 yrs 11 mos

Science and Technology

I was co-writer for Meteorology B for both the 2021, 2022, and 2023 Lexington Invitational Tournament.

Boyceville Satellite Invitational Event Supervisor

Sep 2023 - Present · 6 mos

Science and Technology

I volunteered to write Meteorology B for the 2023 Boyceville Invitational.

Rickards Invitational Event Supervisor

Sep 2023 - Present · 6 mos

Science and Technology

I volunteered to write Meteorology B, Experimental Design B, and supervise Flight C, Air Trajectory C, and Scrambler C at the 2023 Rickards Science Olympiad Invitational.

GullSO Invitational Event Supervisors

Oct 2023 - Present · 5 mos

Science and Technology

I co-wrote Experimental Design C for the GullSO Science Olympiad Invitational Tournament.

TECHNICAL SKILLS

Engineering

Fusion 360, ARDUINO, OnShape

Programming Languages

Python, MatLab, Java, HTML, CSS, Node.js

Web Development.

HTML/CSS/JavaScript, WordPress, GIT/GitHub

Artificial Intelligence

Tensorflow, PyTorch, PyTorch Lightning

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