

Michael Murphy

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Education

2019 - 2023 Palo Alto High School, Palo Alto, California

- Freshmen Year:
 - o 4.0 GPA, succeeded through the COVID outbreak
 - o Awarded the President's Award for my 100+ hours of community service in the Summer of 2019
- Sophomore Year:
 - o 4.17 GPA, succeeded through online school
 - o Awarded President's Award again, for my 100+ hours of community service in the Summer of 2020
- Junior Year:
 - o 4.67 GPA
 - o Member of the Business Club
 - o Co-founded the Leadership, Entrepreneurship, and Economics Club
- Senior Year (in progress):
 - o Member of the International Culture and Diversity Club
- 1400 PSAT score, (99th percentile)
- 1550 SAT score (99th percentile)
- 4.31 Cumulative GPA
- AP Scores:
 - o 5 - AP Seminar
 - o 5 - AP English Language
 - o 5 - AP Computer Science Principles
 - o Earned an AP Scholar award for these scores

Academic Distinctions

- First HS Data Analysis Intern, Linderman Lab, Statistics Dept./Neurosciences Institute, Stanford U.
- Selected Attendee (7% acceptance rate), Data Science in Biomedical Sciences, UC COSMOS, UC Irvine
- AP Scholar Award, College Board
- Perfect score (5), "Mitigating Bias in the Use of Facial Recognition Technology by U.S. Law Enforcement", Individual Research Report (IRR), AP Seminar, College Board, 2022
 - o Teacher's note: "Strong contextualization. The line of reasoning is clear and you purposely chose evidence to support your reasoning for better training sets. Well done"
 - o Link: [Mitigating Bias in the Use of Facial Recognition Technology by U.S. Law Enforcement](#)
- Top Score, "Free Fall Acceleration of Gravity Lab," AP Physics C: Mechanics, Palo Alto High School, 2022
 - o Link: [Free Fall Acceleration of Gravity Lab](#)
- Admitted (declined), Wharton Data Science Academy, Wharton School of Business, University of Pennsylvania, 2022
- Admitted (declined), BU High School Honors Program, Boston University, 2022

Experience

Summer of Service Camp

Summer 2019

Run by Youth Community Service (YCS), campers meet in person to develop leadership skills and participate in community service at local organizations.

Community Service

Participated in ~45 hours of community service with my fellow campers, helping out local organizations such as RAFT (Resource Area for Teachers), Project WeHOPE, Grassroots Ecology, and serving at the Palo Alto Veterans Hospital.

City of Palo Alto Foothills Fun Camp

Summer 2019

Run by the City of Palo Alto, Foothills camp takes place at Foothills Park where campers (aged 5-7) engage in a variety of games, arts and crafts, and educational experiences.

Counselor in Training (CIT)

Assisted Senior Counselors for ~65 hours, organizing games and activities, keeping campers safe, and growing as a leader.

Oshman Family Jewish Community Center (OFJCC)

Summers of 2020 - 2021

The Oshman Family Jewish Community Center is a multi-generational Jewish neighborhood and campus with a preschool, summer camps, fitness center, and more.

Counselor in Training (CIT)

Summer 2020

Working for ~140 hours, I was one of four counselors selected for the CIT role during the height of the pandemic, working with 3rd graders and senior counselors and taking extra safety precautions to prevent COVID outbreaks.

Counselor

Summer 2021

After my work as a CIT, I was invited back to be a paid junior counselor, working with 3rd-4th graders. As the co-leader of a group of 16 children and a CIT, I was awarded a "top-counselor" award by a senior counselor.

DreamCatchers Youth Program

Spring 2022

The DreamCatchers Program offers academic help to underprivileged children in the Palo Alto Unified School District in order to close the opportunity gap in the district.

One-on-One Tutor

During March to May 2022, I offered one-on-one math tutoring to a 7th Grader new to Greene Middle School, building a relationship with him while helping him with his homework.

Co-Founder of Leadership, Entrepreneurship and Economics Club

2022-2023

At the Palo Alto High School Leadership, Entrepreneurship, and Economics club, members learn and share knowledge about the basics of business, finance, economics, and equity through case studies, group discussions, presentations, and guest speakers.

Link: <https://bit.ly/leecpaly>

Guest Speakers

Spring 2022

I reached out to experts in the fields of finance and business, including a former UC Berkeley Professor of Statistics and current CEO of an investment firm, and organized 2 presentations in which these speakers detailed their experience in these fields and their recommendations for high school students interested in them.

SynBioBeta Race Against the Clock Conference

Spring 2022

Invited and attended SynBioBeta's Race Against the Clock Conference in Oakland as a Club, where we learned about the most cutting-edge advancements and companies in the field of Synthetic Biology. Speakers at the conference included former Google CEO Eric Schmidt.

Fundraiser for DreamCatchers

Summer 2022

My fellow club presidents and I coordinated with the leaders of DreamCatchers to host a fundraiser, raising over \$2000 in one summer to purchase TI-84 graphing calculators for graduating members of the program to ensure they are adequately equipped for their high school STEM classes.

Inspirit AI Scholars Course

Spring 2022

Developed and taught by Stanford and MIT alumni and graduate students, Inspirit AI is an 8 week High School Intensive in Artificial Intelligence

Pneumonia Detection

Mentored by a graduate student from Columbia University, my group and I experimented with the use of AI to detect pneumonia in x-ray images of patients' lungs, learning how to control for the highest accuracy rates with neural networks, transfer learning, and data optimization in Python.

Linderman Lab at Stanford University

Summer 2022

The Linderman Lab is part of the Statistics Department and the Wu Tsai Neurosciences Institute at Stanford University and works "at the intersection of machine learning and computational neuroscience, developing models and algorithms to better understand complex biological data".

Internship

For 1 month, I advanced my knowledge of machine learning, mathematical modeling, and neuroscience as I worked with two graduate students on modeling and visualizing laboratory data consisting of neuron signals and video recordings of a model organism for aging (African Killifish), executing complex machine learning techniques such as principal component analysis.

COSMOS Program at UC Irvine

Summer 2022

The California State Summer School for Mathematics & Science (COSMOS) is a prestigious 4-week summer program hosted at the San Diego, Irvine, Santa Cruz, and Davis UC Campuses.

Data Science Applications to Biomedical Science

One of the 20 students out of nearly 300 applicants (7% acceptance rate) to be selected to participate in the Applications of Data Science to Biomedical Science cluster at COSMOS. Spending 4 weeks at UC Irvine being mentored by Professor Babak Shahbaba, I constructed a multiple logistic regression model, normalized with the Lasso machine learning technique in R, that can diagnose Alzheimer's Disease.

Palo Alto High School Peer Tutoring Center

2022 - 2023

"The Peer Tutoring Center is a welcoming place for all students to receive tutoring help, collaborate with other students, study quietly, and borrow books".

Peer Tutor for Physics and Math

Provided free Math and Physics tutoring to numerous students at my high school, using my experiences in these classes to help them with homework, lab reports, and more.

Personal / Extra Curricular

- Citizenships: Ireland, Canada, United States
- Basic understanding of Spanish
- Certified Red Cross Lifeguard (Certified in CPR and First Aid)
- Certified Open-Water Scuba Diver
- Fluent in multiple programming languages including Python (self-taught), R, Java, and Snap!
- Varsity Cross Country and Track and Field runner for Palo Alto High School, competed in the 2019-2022 seasons
 - o 2022 CIF State Cross Country Championships Qualifier
- Interests: Math, statistics, running, finance, video editing, working with children, coding