Michael Li

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EDUCATION

Amador Valley High School, Pleasanton, CA *2018 – Expected Graduation (2022)*

- AP Computer Science A (5), AP Calculus BC (5), AP Biology (4), AP World History: Modern (5), AP Computer Science Principles, AP Psychology (5), AP Statistics (5), AP English Language and Composition
- SAT (1580/1600), Cumulative GPA 10-11: UW 3.8, W 4.5
- Junior Varsity Swim Team (2018-Present)

EXPERIENCE

Public Forum Debate, AVHS Speech and Debate Club *2018 – Present*

- Developed skills in critical thinking, rhetorical strategy, and persuasion
- Researched and debated a diverse range of topics from Medicare for All and UBI to West African urbanization and Venezuelan sanctions
- Effectively communicate ideas persuasively and adapt to real time situations

Founder & Developer, COVIDCatcher *2021 – Present*

- Developed a low-cost, multimodal, machine learning based app for detecting COVID-19 symptoms and coughs
- Objective: To help immunocompromised and elderly understand symptoms w/o leaving the safety of their homes
- App currently live at https://www.c0vidcatcher.org
- Awarded 1st place at Synopsys Science & Engineering Fair, California Science & Engineering Fair Qualifier, Bay Area BioGENEius Finalist - presented to panel of biotechnology leaders (see my poster here)

Research Internship, University of Victoria *June 2021 – Present*

- Work with Professor Xuekui Zhang and PhD student Yushan Hu at the University of Victoria on COVID-19 research
- Implemented machine learning models to predict daily COVID cases in Canadian provinces based on US county demographic data

Associate Field Manager, Rishi Kumar For Congress *June 2021 – Present*

- Sent mass emails through YAMM informing District 18 voters of 2022 Congressional election
- Monitored communications to respond to any reply emails and ensure voters concerns were addressed
- Canvassed in Palo Alto and directly engaged with voters to understand the issues they care about and learned to quickly adapt to situations in order to converse with a voter and persuade them to vote
- Associate Field Manager for the Palo Alto/ Menlo park canvassing team
- Responsible for entire Palo Alto/Menlo Park team (eg. distributing flyers and turf lists to interns, organizing and leading weekly meetings, preparings interns with talking points for voter conversations)

Shadow CTO, Umlaut Foundation, Pleasanton, CA *2020 – Present*

- Designed and implemented podcasting features, article content management, and newsletter templates
- Umlaut is a non-profit that connects Californian foster youth with volunteer-sponsored mentorship in diverse topics
- Maintained Umlaut Foundation website across multiple devices and browsers(i.e. Chrome, Safari, iPhone, Android), and address bugs such as overlapping text/images

Lead Tutor, ACE Coding Club *2020 – Present*

- Created curriculum and taught advanced C++ programming course to middle schooler and high schoolers from nearby school districts, covering topics such from recursion to Artificial Intelligence
- Designed and led a coding workshop for ACE Code Day teaching students about machine learning using the OpenCV computer vision library
- Built and demoed a neural network detecting face-mask compliance from video feed in real-time

Software Engineer, Amador Valley Robotics Club *2018 – Present*

- Student-run robotics club that competes annually with collegiate teams in RoboNation International RoboSub
- Designed and executed on all computer vision related tasks, critical for helping the vehicle navigate the field (previous years included tasks such as detecting dice, and passing through a gate)
- Wrote code leveraging OpenCV for object detection and image processing
- Coordinated with machine learning team to create ML workflows that perform real-time object detection

Software Developer Intern, Omou Learning *July 2020 – Present*

- Omou is a digital learning space for tutoring centers to connect student, parent, and teacher communities.
- Built Google Classroom integration to enable users to sign in via Google and invite/unenroll students from Google Classroom
- Worked with React framework and built features using HTML, CSS and JS

Mathworks Math Modeling Challenge *February 27 2021*

- Worked with team of three to use applied mathematical modeling to tackle a real-world problem under time and resource constraints and produced viable paper considered for Technical Computing Award
- Learned/implemented algorithms in Python including: Simple/Multiple Linear Regression, Logistic Regression, Markov Chain, and Monte Carlo simulation in preparation for the challenge,
- Implemented exponential regression to predict cost per unit of bandwidth based on previous trends reported in Ofcom and FCC
- Developed a multivariate model to predict a given household's internet needs based on household size, income, age, and bandwidth activity.

Researcher, Lumiere Research Program *Jan 2021 – March 2021*

- **"A Programmable Network Router Design for Faster Stateful Packet Processing"**
- Proposed a novel design for a parallel processing router that guarantees functional equivalence, with a fast and flexible processing speed, to address processing speed limits in a Post-Moore world
- Worked with Vishal Shrivastav, former Yale Postdoctoral Associate/Purdue Assistant Professor, on independent router design research project; pursuing publication
- Learned skills in time-management, organization, and problem-solving, and developed an understanding for academic language and the research process

Performer, Winner's Concert, United States Open Music Competition *May 15, 2021*

- Performed Grieg Notturno, Op. 54 No. 4 in front of live audience of 100+ people at the Oakland California Temple

SKILLS

- Java (3 yrs.), Speech and Debate (3 yrs.), C++ (3 yrs.), Web Design using *WebFlow* (1 yr.), Web development using HTML, CSS, JS (3 yrs.), Python (1 yr.), Piano (12 yrs.)

AWARDS & RECOGNITION

- **Bay Area BioGENEius Challenge**, Finalist, 2021
- **California Science and Engineering Fair**, Qualifier, 2021
- **Synopsys Alameda County Science and Engineering Fair**, First Place in Mathematics/Computer Science, 2021
- **HackItShipIt Hackathon**, First Overall, 2020
- **Data Day Grind Hackathon**, Best Data Visualization, 2020

- **To the Moon and Hack Hackathon**, Third Overall, 2020
- **USA Computing Olympiad**, Silver Division.
- **Collegeboard**, AP Scholar with Honor.
- **United States Open Music Competition**, First Place - 5C Open Solo (Romantic Period), 2021
- **MTAC Alameda County East Piano Competition**, Second Place - Division C (Senior), 2020
- **United States Open Music Competition**, Second Place - Piano Treasury of Romantic Composers (Senior), 2019
- **MTAC Alameda County East Piano Competition**, Second Place - Division B (Junior), 2018
- **MTAC Certificate of Merit**, Piano - Level Advanced with State & Branch Honors, 2019
- **Amador Valley Swim Junior Varsity**, Athletic Award A, 2019
- **National French Contest**, Bronze Award, 2021

REFERENCES

Vishal Shrivastav

- **Assistant Professor of Electrical and Computer Engineering at Purdue University**
- **Email**: vshriva@purdue.edu
- **Cell**: (765) 496-1159
- Vishal was my research mentor for the Lumiere Research Program. I worked weekly with him on an independent router design research project

Emily Wang

- **Independent Researcher**
- **Email**: emilysmwang@gmail.com
- **Cell: (**650) 505-7382
- Emily was my mentor for the BioGENEius Bay Area Challenge and helped me develop COVIDCatcher and work on my poster. Emily also helped me with applying to the BioGENEius Bay Area Challenge and preparing for judging.