

# QING YANG

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Claremont CA, 91711

## Education

Harvey Mudd College, Claremont, CA

Expected May 2023

- GPA: 4.0/4.0
- Intended: Bachelor of Science, Computer Science
- Courses: Data Structures and Program Development, Discrete Mathematics, Principles of Computer Science, Programming Practicum, Introduction to Computer Science, Probability and Statistics

Anglo-Chinese School (Independent), Singapore

Jan 2017 - Nov 2018

Nan Hua High School, Singapore

Jan 2015 - Nov 2016

- Singapore Ministry of Education **Full Scholarship for 4 consecutive years**
- **Dean's List** of Math and Chemistry; **Level Top** in Math, Chemistry, Biology and Physics
- European Organization for Nuclear Research: selected participant of Quantum Physics program

## Skills

Python, Java; Python Tkinter GUI package, git, GitHub, matplotlib, MATLAB, Darknet Neural Networks.

## Related activities

### Graphical User Interface Development

May 2020 – July 2020

- Developed a GUI named eMPress using Tkinter. eMPress is a software tool for reconciling pairs of phylogenetic trees like host-parasite, host-symbiont, and species-gene trees under the Duplication-Transfer-Loss (DTL) model. Co-author of a manuscript titled eMPress: A Systematic Cophylogeny Reconciliation Tool (BIOINF-2020-1780) submitted to the Bioinformatics.

### Underwater Robotics

Sep 2019 -Present

- Manage the Vision project which enables our autonomous underwater vehicle to navigate under water and accomplish game tasks. Utilize Python, Darknet Neural Networks and C & YOLO: Real-Time Object Detection.

### Study Cloud Website Development

Sep 2019 -Present

- Code with JavaScript D3 library and HTML for front-end web development. Study Cloud is a website for sharing student resources, built to benefit generations of future high school and college students.

### Personal Website

Oct 2019 -Present

- Code with JavaScript and HTML for an interactive and animated portfolio website.

### Cybersecurity Club

Sep 2019 -Present

- Solve problems in the areas of web vulnerabilities, forensics, cryptography, and networking.

**HMC Activities:** Robotics Team, Study Cloud Club, Makerspace, Cybersecurity Club, Women's Association of Computing Machinery, Society of Women Engineers

Sep 2019 -Present

**High School Activities:** National Science Experiment Big Data Challenge; Google Science Journal Challenge;

MAKE Fair (for science innovations from 7 countries), **Organizer**

May 2017 - Sep 2018

**Online course: Java Programming** Masterclass for Software Developers by Tim Buchalka

Jul 2019 - Present

**Research:** wind mechanics, Bisphenol-A degradation via advanced oxidation process, tea residue as an

alternative to remove copper from wastewater, Game Theory in applied Mathematics

Jan 2017 - Nov 2018

**Patents:** eye surgery recovery mask, energy-saving trash bin, reconfigurable power strip

2017 - 2018

## Internship

Cambodian Organic Agriculture Association, Marketing intern

May 2017 - Jun 2017

Wings College Prep (US), Marketing intern

Mar 2017 - May 2017

## Volunteer

Aurora Project for mentally challenged individuals, **Founder**

Jan 2017 - Present

Son-Rise Program for autistic children, **Trained volunteer**

May 2017 - Jun 2018