

2384 W. Arrow Route, Apt 701
Upland, CA 91786
https://qing-yang-1211.github.io/Qing_Yang/

QING YANG

(909) 542-7434
qyang@hmc.edu
<https://github.com/Qing-Yang-1211>

EDUCATION

Harvey Mudd College	Claremont, CA	Expected May 2023
<ul style="list-style-type: none">• Bachelor of Science, Computer Science, GPA: 4.0• Relevant Coursework: Data Structures and Program Development (ongoing), Discrete Mathematics (ongoing), Principles of Computer Science, Probability and Statistics, Linear Algebra, Mechanics, Multivariable Calculus		

WORK EXPERIENCE

Research Assistant	Harvey Mudd College, Claremont, CA	May 2020 – July 2020
<ul style="list-style-type: none">• Developed a graphical user interface for empress application using Python and Tkinter. Empress is a software tool that uses the duplication-transfer-loss model to find the most probable way two species lived together in the past.• Collaborated with a team of four students and two professors to specify the design and requirements of empress application.• Used Git/GitHub for source control and participated in rigorous code review process throughout application development.		
Marketing intern	COorAA, Phnom Penh	May 2017 – Jun 2017
<ul style="list-style-type: none">• Led a team of three to do market research and enforced a marketing plan for Cambodian Organic Agriculture Association.		

SKILLS

- Python, Java, Tkinter, Git, GitHub, Matplotlib, MATLAB, Darknet Neural Networks.

PUBLICATION

- Santichaivekin Santi, Qing Yang et al. 2020. eMPress: A Systematic Cophylogeny Reconciliation Tool. Bioinformatics (BIOINF-2020-1780). Submitted.

PROJECTS

- **Underwater Robotics** Sep 2019 – Apr 2020
Improved the navigation system for autonomous underwater vehicles to accomplish game tasks. Utilized Python, Darknet Neural Networks, and YOLO real-time object detection command line tool.
- **Study Cloud Website Development** Sep 2019 – Mar 2020
Worked to improve the structure of the topic organization tree using JavaScript D3 library and HTML. Study Cloud is an unpublished website for sharing student resources.
- **Snake Game** Mar 2020
Added speed, direction, lives, scoring, and enemy targets options for the Snake Game. Implemented an AI mode for the snake to search for targets and win the game automatically.
- **Seam Carving Photo Editor** Mar 2020
It finds the seams of pixels that are as similar to their neighbors as possible and deletes them to resize images without distortion. Implemented color changing functions.
- **Connect 4 Game** Dec 2019
Modified a classic family game Connect 4 to integrate a high-level artificial intelligence and autonomy. The game can be played by AI and human players with different tie-breaking types. All possible movements are scored to evaluate the next best movement. Add a Frozen 2 theme to maximize players' entertainment.
- **AI Writer** Nov 2019
Automatically writes articles by analyzing and utilizing a provided database of written works.
- **Sound Editor** Sep 2019
Includes functions to modify speed, reverse a clip, change volume, combine clips, create echo effects, and generate pure tones.

PATENTS

Eye surgery recovery mask [cn201821124047.9], Reconfigurable power strip [cn201821125891.3], Energy-saving trash bin [cn201821123995.0]