Katrina (Tsui-Yi) Hung

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C++, Python, JavaScript, PHP

Education

- **National Yang Ming Chiao Tung University** Sep. 2023 - Jun. 2027 (expected)
  Hsinchu, Taiwan

  Relevant Course Grades:
  - Introduction to Computers and Programming - A+
  - Object-Oriented Programming - A+
  - Basic Programming - A+
  - Competitive Programming(I) - A-
  - Linear Algebra - A+

Skills

C++ | Python | HTML | CSS | JavaScript | Node.js | PHP | MySQL | Linux | Arduino | Raspberry PI

Leadership & Activities

- **NYCU Makereal Labs (Maker Club)** Feb. 2024 - Present
  9th Executive - Teaching and Artistic Design
  - Develop projects and teach production methods and programming in community courses.
  - Collaborate with teaching staff to create projects and courses for maker camps and workshops, including competitive elements for participants.
  - Design the club mascot, promotional materials, and so on; utilize electronics and modeling knowledge for club souvenirs.
  - Represent the club and school in makerthons together.

- **2024 NYCU Maker's Summer Camp** Apr. 2024 - Jul. 2024
  Director - Courses and Artistic Design
  - Served as a C++ program director and project ideation instructor; prepared syllabus and guide staff; 86% of participants were satisfied with this course.
  - Be a teaching assistant and group counselor, helping team cohesion, curriculum progress, problem-solving, and makerthon participation.

- **2024 NYCU × CPSHS JavaScript Workshop** May 2024 - Jul. 2024
  Staff Member - Artistic Design & Teaching Assistant
  - Designed event posters.
  - Assisted students with questions and ensured they kept up with the course progress.
  - Provided lesson preparation suggestions to the instructor.

- **2024 NYCU Management Science Leadership Camp (Mansion of Savior)** Feb. 2024 - Jul. 2024
  Staff Member - Artistic Design & Internet Publicity Department
  - Designed event avatars and created props needed for camp activities.
  - Assisted group counselors in managing team members and prepared performances and game activities with other staff members.

- **2024 NYCU Maker's Winter Camp** Nov. 2023 - Jan. 2024
  Staff Member - C++ Program Instructor
  - Coordinated C++ instructors' syllabus, scope, and duration in class; prepared and taught C++ courses; 95% of participants were satisfied with this course.
  - Acted as a teaching assistant and group counselor, ensuring progress and addressing issues.

Awards & Projects

- **Alcohol Interlock - technical application and performance analysis** Mar. 2024 - May 2024
  2024 MakeNTU AUO Corporate Award Third Place
  - We developed an alcohol interlock that continuously monitors the driver's alcohol reaction by several indicators during driving.
  - It includes a humorous generative AI virtual assistant aiming to address the flaws and inconveniences of current alcohol interlocks.
  - Alongside four partners, I co-created and competed in a makerthon project. My responsibilities are handling the simulation of the car interface webpage and integrating the ChatGPT API to make our alcohol interlock provide relevant feedback based on backend data.

- **GPE** March 20, 2024
  Score: 450 / 600; Rank: 4 / 87
  - A GPE score of 240 is the graduation threshold for the Department of Computer Science at NYCU. It's more challenging than the CPE (Collegiate Programming Examination).
  - This is the grading standard for Basic Programming, and I achieved A+.

- **1A2B - The Web Game** Mar. 2023
  Midterm Project for Information Technology Course
  - Developed a website for playing the classic game 1A2B, featuring registration and login to record best scores and join the leaderboard.
  - Built using HTML + CSS + JavaScript and PHP, hosted on WampServer, and stored player data in MySQL.
  - During the class's free viewing period, over 58% of classmates participated in the 1A2B online ranking battle, with over 70% playing more than three games.

- **When Dino Hits the Genetic Algorithm** Jun. 2022
  Final Report for Information Technology Course
  - Attempted to crack the Chrome Dino game using the Genetic Algorithm.
  - Utilized C++ to cultivate strong genes for 10 generations, each with a gene pool of 100 sets, a 10% crossover mutation rate, and approximately 1.9×10^2 possible genes. Integrated the cultivated genes into a modified JavaScript from GitHub to auto-control Dino getting scores and leaving the superior genes.

- **Big Data × Stock Market** Feb. 2022 - Jun. 2022
  Autonomous Learning Final Presentation Project
  - Scraped 20 years of monthly K-line data for FTSE TWSE Taiwan 50 Index components using Python; backtested parameter combinations and created analysis charts with Matplotlib to identify the most profitable strategy.
  - Backtesting with optimal parameters and trading one board lot at a time showed a potential profit of nearly NT$40,000,000 over 20 years.

- **Coding With Us!** Mar. 2022
  Project for 2022 Google Solution Challenge
  - Developed an Android app with App Inventor for offline C++ and Python learning to support SDGs Quality Education.
  - The app features a cute interface and fun mini-games in each chapter to enhance programming learning enjoyment.
  - Co-edited HTML format tutorials, created the project with three partners and joined Google Solution Challenge as a GDSC TMU Project X member.
  - I was mainly responsible for conveying competition information, project coordination, coding, interface and artwork design, app content planning, and intro video editing.