CHEN, CHAO-TING

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EDUCATION

National Chengchi University (NCCU) Taipei, Taiwan
Bachelor of Science in Computer Science - GPA: 4.18/4.3 09/2021 – 06/2025
Double major in Digital Content and Technologies, Minor in Electrophysics

- **NT$3,000**, Dean's List Award 09/2024
- **NT$5,000**, Academic Excellence in course "Computer Structure and Organization" 05/2024
- **NT$3,000**, Dean's List Award 10/2023
- **NT$5,000**, Academic Excellence in course "Data Structure" 05/2023

TRAINING COURSE

Harvard University Remote
CS50's Introduction to Artificial Intelligence with Python, including twelve projects and seven quizzes. 09/2023

WORK EXPERIENCE

MediaTek Inc. Taipei, Taiwan
Internship - Software Engineer 07/2024 – 12/2024

- Developed firmware using C++ and Rust with firmware engineers; ensured its compatibility with the hardware devices.
- Acquired knowledge about applying the mobile operating system Android; conducted in-depth research on Android Graphics.
- Conducted research on issues related to Workload; monitored APK activities; implemented a communication bridge between APK and Firmware.
- Constructed a system that uses Machine Learning and Language Models to preserve known knowledge; assisted engineers in analyzing, accelerating development, and debugging.

RESEARCH EXPERIENCES

Academia Sinica 06/2022 – 06/2025
Scholarship Recipient, Advisor: Assistant Research Professor Huang, Hen-Hsen

- Create an intelligent agent using Large Language Models(LLMs), Visual Language Models(VLMs) and a Real-time Object Detection Model(YOLO) with visual and behavioral capabilities to understand the real world.
- Studied LLMs & VLMs; analyzed various capabilities of LLMs.
- Completed and published the research paper "Integrating LLM, VLM, and Text-to-Image Models for Enhanced Information Graphics: A Methodology for Accurate and Visually Engaging Visualizations" at the top-notch AI conference IJCAI.

National Science and Technology Council 03/2022 – 03/2025
Researcher, Advisor: Scientist Lin, Yu-Cheng

- Researched the technology of quantum annealing; used Japan's Fujitsu quantum computer to simulate annealing.
- Developed a multifunctional quantum annealing tool with C/C++ and Rust to assist students in studying quantum heuristic algorithms.
- Applied and successfully selected for the College Student Research Scholarship, with a 30% to 40% selected rate over the years.
- Combined information and computational physics to conduct in-depth research on the significance and effectiveness of Hamiltonian in computing.

National Chengchi University (NCCU) 03/2024 – 02/2025
Student, Advisor: Associate Professor Tsai, Ming-Feng

- Integrated law and fine-tuned open-source language models, and made it usable by the general public who was unfamiliar with the law.
- Made the model properly quote the correct laws and regulations by combining the "Laws & Regulations Database of The Republic of China (Taiwan)", Retrieval-Augmented Generation (RAG) and fine tuning.
- Used various open-source models, containers, and other tools proficiently to accelerate the development and deployment process.

National Chengchi University (NCCU) 06/2022 – 06/2023

Teaching Assistant, Advisor: Associate Professor Tsai, Ming-Feng

- Prepared content for 1-hour lectures to students of my advisor's classes per week; taught the course content and answered their questions.
- Set the questions for homework, quizzes, the midterm, and the final; marked the homework and test papers; enrolled the grades.
- Maintained the school's program marking system.

Extracurricular Activities

Member, **Student Council, NCCU** 09/2024 – 06/2025

- Served as a student councilor, collaborated with peers and faculty to represent student interests, organized school events, and promoted community involvement.

President, **Magic Club, NCCU** 09/2021 – 06/2024

- Organized the NCCU Close-distance Magic Competition; maintained club operations; achieved excellence in the annual club performance evaluation.

Project Manager, **PeoPo Citizen Journalism Platform Project** 09/2022 – 06/2023

- Built an online news website including the completion and finalization of the front-end, microservice, back-end and database.

Leader of Technology Team, **Google Developer Student Clubs** 09/2021 – 06/2022

- Led the tech team; cooperated with Google; built the club's website; served as a lecturer for the club's classes.

Developer, **Side Project** 09/2021 – 06/2022

- Developed, designed and maintained a website that stored previous years' question papers, and allowed students to upload, download, and share them.

Awards & Honors

1st Place, 2022 Game Design Hackathon, BlackHole Creative Co., Ltd. 10/2022

Qualified for the final, National College and University Software Design Competition, National Taiwan Normal University 10/2022

2nd Place, NCCU Business Start-up Competition, NCCU Entrepreneur Association 05/2022

Top 20, Calculus A General Examination, Applied Mathematics Dept., NCCU 01/2022

Academic Reports

Integrating LLM, VLM, and Text-to-Image Models for Enhanced Information Graphics: A Methodology for Accurate and Visually Engaging Visualizations 06/2024

First Author, 5 Pages, International Joint Conference on Artificial Intelligence (IJCAI)

- The study presents a method for creating accurate and visually appealing information graphics by combining Large Language Models, Visual Language Models, and text-to-image models. The process ensures precise data representation and enhances the graphic's visual quality, making it ideal for educational and scientific use.

Multifunctional Quantum Annealing Toolkit and Its Applications 05/2024

First Author, 9 Pages, National Science and Technology Council

- The project focuses on developing an open-source C++ software package that combines simulated annealing, simulated quantum annealing, and quantum annealing algorithms for solving combinatorial optimization and theoretical physics problems. The software will be modeled after existing interfaces and designed for use on traditional computers.