

Heng-An Cheng

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EDUCATION

National Yang Ming Chiao Tung University (NYCU), Hsinchu, Taiwan *Sep 2022 – Present*
B.S. in Electrical Engineering (Double Major in Computer Science) GPA: 4.08/4.30 (3.92/4.00)
Courses: ML, NLP, Data Science, Computer Architecture, Operating Systems, Algorithms, Object-Oriented Programming, Data Structures, Computer Architecture, Microcomputer Systems and Lab, Probability, Digital Signal Processing, Computer Networks,

University of Illinois at Urbana-Champaign (UIUC), Exchange Program *Jan 2025 – May 2025*
Courses: Text Information, Applied Parallel Programming, Algorithm, Real World IoT Algorithm
Strengthened practical skills in CUDA, text retrieval and generation, and cross-cultural communication.

WORK EXPERIENCE

VIVOTEK Inc., Intern Software Engineer *Jan 2024 – Feb 2024*

- Researched and prototyped the integration of Large Language Models (LLMs) with Retrieval-Augmented Generation (RAG) for intelligent FAQ chatbot systems.
- Built automation tools to process internal manuals and generate context-aware responses for customer support queries.

RESEARCH EXPERIENCE

Financial Knowledge Graph with LLMs, Advisor: Prof. Hong-Han Shuai *Sep 2024 – Jan 2025*

- Designed a pipeline to extract structured financial entities from unstructured PDFs of company reports using LLM-powered prompt workflows.
- Constructed knowledge graphs and applied them as contextual input for RAG-based LLM applications.

PROJECTS

PvZ Duel (github.com/hacheng0193/aoop-proj-g3-pvz) *Jan 2025*

- Created a multiplayer PvZ clone using Pygame where players control either plants or zombies.
- Applied object-oriented programming (OOP) principles to build a modular, maintainable, and readable codebase.

Flutter Speech-to-Summary (github.com/hacheng0193/flutter-speech-to-summary) *July 2024*

- Built a cross-platform mobile app using Flutter and Dart for summarizing audio files or YouTube videos.
- Implemented automatic transcription and note generation using LLM integration.

STM32F4 Bejeweled Game (github.com/hacheng0193/STM32F4-Term-Project-Bejeweled-Game) *June 2023*

- Implemented core Bejeweled game logic (tile swap, match detection, scoring) on STM32F407VG.
- Integrated an ILI9341 touch screen for both graphical output and user input via touch gestures.
- Developed in C/C++ using Keil MDK-ARM development tools.

FPGA Tetris (IMU Tilt Control) (github.com/hacheng0193/FPGA-final-project-Tetris) *May 2023*

- Developed a fully functional Tetris game in Verilog for Nexys DDR4 (Artix-7) FPGA.
- Used onboard MPU-6050 IMU via SPI to enable tilt-based left/right movement.

SKILLS

- **Languages/Tools:** Python, C/C++, HTML5, CSS, Git, Flutter
- **Tech/Fields:** Machine Learning, NLP, LLM, RAG, Prompt Engineering, Data Mining, Web Crawling
- **Languages:** English(TOEFL 100, TOEIC 960)

ACTIVITIES & LEADERSHIP

President, Go Club, NYCU *Sep 2023 – Aug 2024*
Planned and led weekly club sessions, organized new student orientation, managed exhibition booth, and coordinated the Mei-Chu Go exhibition match.

Sports Participation *Sep 2022 – Present*
Active member of EE department's baseball, badminton, and table tennis teams.