Jyun-An Chen

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Education

National Yang Ming Chiao Tung University (NYCU) Hsinchu, Taiwan
M.S. in Computer Science (Practice-Oriented Track, 資科工碩實務導向丙組)
National Cheng Kung University (NCKU) Tainan, Taiwan
B.S. in Computer Science and Information Engineering *Sep. 2022 – Jun. 2026*
Admitted via Special Talent Recruitment Program (Competitive Programming Category, 特殊選才甲組)

Technical Skills

Languages: C/C++, Python, Java, C#

Frameworks & Libraries: FastAPI, Spring Boot, React, Celery, RabbitMQ

Systems & DevOps: Docker, GitHub Actions CI/CD, Linux system administration, PostgreSQL, Redis, shell scripting, MongoDB

CS Topics: Competitive Programming, Data Structures, Algorithms, Parallel Programming, Heuristic Optimization

Awards

Silver Medal Award, 2024 & 2025 ICPC (國際大學生程式設計競賽) Asia Taiwan Online Programming Contest – Rank 37/294, 31/228 (Sep. 2024, 2025)

Bronze Medal Award, 2022 & 2024 ICPC Asia Regional Programming Contest (Taoyuan, Taichung) – Rank 42/100, 43/110 (Nov. 2022, 2024)

Honorable Mention, 2024 National Collegiate Programming Contest (NCPC; 全國大專電腦軟體設計競賽) – Rank 25/152 (Nov. 2024)

Third Place, 2025 AMD Online Hackathon

6th Place, 2023 HPE/HPI/INTEL Codewars (Oct. 2023)

Open Source Contributions

Apache Airflow (apache/airflow) – 50+ merged PRs Optimize database, API, and provider performance, and resolve bugs.

codetrial (CodeTrial - A live technical-interview simulator) – maintainer, Reviewed pull requests, resolved bugs, and developed new features.

Experience

Software Engineer Intern Jul. 2023 – Aug. 2023
SYSTEX Corporation *Taipei, Taiwan*
- Designed and tuned a text-based violation detection algorithm, lifting document-level F1 from 0.885 to 0.932 and character-level F1 from 0.866 to 0.932.
- Optimized inference throughput to ∼17 microseconds per character (1.68e-5 s/char), enabling near real-time scanning on large documents.

Judge Sep. 2023 – Present
The 2026 International Collegiate Programming Contest Asia Yunlin Regional Contest *Yunlin, Taiwan*
- Problem Setting & Testing.

Teaching Assistant Sep. 2023 – Present
National Cheng Kung University, Dept. of CSIE *Tainan, Taiwan*
- Head TA for systems-track CSIE courses: Program Design, Multi-Processor Parallel Programming, and Data Structures.

Algorithm & Data Structures Lecturer Jul. 2022 – Present
Tainan Girls' Senior High School & Various High Schools *Taiwan*
- Trained high school students for competitive programming contests.
- Founded NHDK, a programming contest platform for beginners.

Projects

AlgoPilot – AI-Powered VS Code Extension for Algorithm Development Team Project
TypeScript, FastAPI, PostgreSQL, Celery, RabbitMQ, Redis, Docker, LLM *github.com/YouSayIsRighTeam/AlgoPilot*

- Built a VS Code extension delivering AI-driven auto code review, edge-case generation, and crash analysis across 7 languages (C/C++, Java, Python, TS/JS, Go).
- Designed the FastAPI + Celery + RabbitMQ backend with Ollama/OpenAI integration for asynchronous LLM-driven static analysis and LeetCode workflow integration.

PHACO – Parallel Hybrid Ant Colony Optimization for k-MST Graduation Project
C++, Parallel Computing, Heuristic Optimization, Graph Algorithms

- Proposed PHACO, combining a best-solution-perturbation exploration mechanism with an AVL-tree-maintained k-candidate set to escape pheromone-induced local optima and directly target the k-th smallest spanning tree objective.
- Parallelized ant-colony iterations across CPU cores; achieved consistently higher solution accuracy and tighter weight-ratio distributions than baseline ACO, with the gap widening as k grows (baseline ACO degrades sharply at large k).

Modern Online Judge System (NCKU OJ) Side Project
Docker, PostgreSQL, Redis, Celery, Python *github.com/ColtenOuO/CK-Judge2*

- Built a scalable Online Judge backend with Celery and Redis for asynchronous task processing.
- Implemented secure code execution environments using Docker-based sandboxing.

Turkey Rice POS & Analytics System Side Project
FastAPI, React, TypeScript, PostgreSQL *github.com/ColtenOuO/TurkeyPOS*

- Developed a comprehensive Point-of-Sale (POS) system with customizable meal options.
- Integrated a backend analytics dashboard to track sales trends and inventory performance.

Auto Student Feedback Side Project
JavaScript, Chrome Extension API *github.com/ColtenOuO/Auto-Student-Feedback-NCKU*

- Built a Chrome extension that automates filling out NCKU's teaching evaluation forms, saving repetitive manual work for students.

KFC Best Deal Calculator Side Project
Java, Spring Boot, MongoDB, Algorithm *github.com/ColtenOuO/KFCalculater-2.0*

- Implemented a DP-based optimization engine to find the most cost-effective meal combinations.

Discord Course Query Bot Side Project
Discord API, Web Scraping *github.com/ColtenOuO/Discord_BotV2*

- Created an automated tool to fetch and display university course information via Discord commands.