

Chang-Yen (Brian) Li

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Education

University of Texas at Austin

Aug. 2025 – Dec. 2026

M.S, Electrical and Computer Engineering (Software Engineering and Systems Track)

National Taiwan University (NTU)

Jun. 2024

B.S, Department of Computer Science and Information Engineering

- Overall GPA: **3.99/4**, Class Rank: **2/145**, 3 **Dean's List Awards**.
- Relevant Courses: Operating Systems, Computer Architecture, Computer Networks, Algorithm Design and Analysis, Full Stack Web Development, Unix Systems Programming, Machine Learning, Linear Algebra, Calculus

Awards and Honors

- **ICPC Asia Regional Programming Contests**: **2 Gold** and **1 Silver**, using **C++** and **Python**.
- **Taiwanese Olympiad in Informatics**: Ranked **24th** in the International Olympiad in Informatics national team selection.

Work Experience

Open Source Developer

Jun. 2025 – Present

Airflow, Apache Software Foundation

- Built SQLAlchemy URL generators in **Python**, enabling seamless integration with multiple database hooks and reducing configuration overhead for pipeline developers.
- Enhanced the Airflow **UI** by implementing asset event filtering with **React**, **TypeScript**, and **Python backend** modifications, improving workflow navigation and usability to efficiently handle 10,000+ events in large-scale pipelines.

Software Engineer in Test Intern

Jan. 2023 – Jun. 2023

Synology Inc.

- Developed automated **integration and unit tests** for DSM web APIs, covering **kernel-level** permission control and user group management; wrote scripts to run tests remotely via SSH and integrated with **Jenkins CI**, strengthening continuous integration and improving overall system reliability.
- Implemented automated daily scans across 10,000+ self-hosted GitLab repositories using GitLab **CI/CD** and **Ansible**, with **PostgreSQL** for data collection and **OpenSearch** for analysis, optimizing storage and enforcing key/token rotation to strengthen risk management.

Wired Network Administrator

Sep. 2022 – Jun. 2024

National Taiwan University

- Managed the wired network infrastructure for 600+ faculty members and students.
- Automated **network configuration** and backup processes for 30+ HP switches, enabling rapid incident recovery.

Selected Projects

Pipelined RISC-V CPU

Jan. 2023

- Designed and implemented an 8-stage **pipelined RISC-V** CPU supporting 15+ ISA instructions with **Verilog**.
- Achieved $9461.62 \mu\text{m}^2$ area with production-feasible synthesis using Yosys.
- Optimized for performance, reducing latency to achieve 1.27 GHz operating frequency.

Where to Meet

Dec. 2024

- Developed a full-stack, responsive social platform using **Next.js** and **PostgreSQL**, featuring **user authentication**, profile management, **real-time chat**, and maps that display friends' planned events with options to join or meet up.

Research Experience

Undergraduate Researcher

Sep. 2022 – Sep. 2023

Machine Intelligence and Understanding Laboratory, NTU

Advisor: Prof. Yun-Nung Chen

- Integrated the k-nearest neighbor (k-NN) algorithm with **large language models** in **PyTorch** to enable token-level retrieval, improving dialogue response generation.
- Improved performance by up to 3% in BLEU and F1 scores on major knowledge-intensive conversation datasets.
- Demonstrated k-NN retrieval augmentation's **robust generalization** capabilities with minimal parameter tuning.

Skills

Data structure and Algorithms, Operating Systems, C/C++, Python, Linux, Git, Web/System Programming