

Tianle Yao (Danny)

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EDUCATION

The University of Hong Kong

BEng (Computer Science), minor in Mathematics

Hong Kong, China

Sep 2023 – Jun 2027 (Expected)

- Major GPA: **3.90 / 4.30** (Expected **First Class Honours**)
- Coursework: Data Structure & Algorithm, Algorithm Design and Analysis, Database, Computer Vision, Machine Learning, Artificial Intelligence, Operating System, Probability, Linear Algebra, Multivariable Calculus

University of Waterloo

HKU nominated student under HKUWW Exchange Program

Waterloo, Canada

Jan 2026 – Apr 2026

- Coursework: Deep Learning, Computer Network, Statistics, Introduction to Optimization

Stanford University Summer IHP Program

Visiting student nominated by HKU

CA, USA

Jun 2024 – Aug 2024

EXPERIENCE

XR Developer Summer Intern

HKU Human-System Interaction Lab (HIS)

Jun 2025 – Aug 2025

Hong Kong

- Developed an **Apple Vision Pro** app with hand gesture recognition to simplify user input flow
- Developed an **iOS** diary-like memory recorder app with **prompt-engineered AI** guidance

PROJECTS

RESTful Blog API | *Python, FastAPI, PostgreSQL, Redis, Docker*

Mar 2026

- Built a RESTful Blog API (11 endpoints) with **FastAPI** and **PostgreSQL**, implementing JWT authentication with 401/403 access control and cascade deletion on related comments
- Implemented **Cache-Aside** pattern with **Redis** for article caching (TTL 5 min) and atomic view count increments via **INCR**, reducing redundant database reads
- Conducted load testing with **Locust** at 100 concurrent users, achieving **50 RPS** with **0% failure rate**; identified connection pool bottleneck at 200 concurrency and proposed async driver migration as resolution
- Containerized with **Docker Compose** (API + PostgreSQL + Redis); wrote 7 **pytest** unit tests using SQLite in-memory DB for test isolation
- GitHub: github.com/DannyYTL/blog-api

Ethereum Smart Contract for Crop Insurance | *Solidity, JavaScript* | [GitHub](#)

Apr 2025 – May 2025

- Developed a decentralized crop insurance smart contract in **Solidity** on Ethereum, implementing **trustless automatic payouts** triggered by weather thresholds; deployed and tested on **Sepolia testnet** using Hardhat

Air Quality Analysis | *Python* | [GitHub](#)

Jul 2024 – Aug 2024

- Analyzed WHO global air quality data (**40K entries**) in a 4-person Stanford University course project; applied **KNN**, **SVM**, and weighted Linear Regression to classify and predict pollutant concentrations across **100 countries** (KNN F1: **0.9457**)

COMMUNITY & LEADERSHIP

HKU Undergraduate CS Student Representative

Student Representative for 2024-2025, 2025-2026 academic year

Sep 2024 – Present

Hong Kong

TECHNICAL SKILLS

Programming Languages: C++, Python, SQL, Java

Frameworks & Libraries: FastAPI, SQLAlchemy, PyTorch, Pandas, NumPy, Scikit-learn

Tools & Databases: Docker, Git, PostgreSQL, Redis

Languages: Mandarin (Native), English (IELTS: Overall 7.5)