Haotian (Tim) Tan

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EXPERIENCE

LENOVO LTD. | Software Engineer Intern
Aug 2023 – Sep 2023 | Shenzhen, China
- Developed a **chatbot** in Python using **LangChain** with SQL integration and **Flask** backend
- Created a responsive frontend interface using **React** for seamless user interaction

MIRROR EDUCATION SUMMER SCHOOL | Modular Synthesizer Course Lecturer
July 2024 | Shanghai, China
- Designed and delivered a course teaching students to build **analog synthesizers** from scratch
- Developed curriculum covering electronic fundamentals, circuit design/sim with CircuitJS, and assembly with breadboard

BOMING VISION TECHNOLOGY CO., LTD. | Engineering Intern
Aug 2021 | Zhuhai, China
- Gained practical experience in **machine vision** applications for industrial settings
- Assisted with assembly of defect detection systems and explored computer vision development

PROJECTS

GRANTME - CAMEL-AI HACKATHON | Winner – "Connecting to the web" track
Nov 2024 | Oxford, UK
- Co-developed research grant matching system using academic profiles
- Built grant pipeline with **Firecrawl** + **Camel-AI multi-agent orchestration**

SPEEDCODE - REAL-TIME CODING ARENA | CUES Hackathon
Nov 2024 | Cambridge, UK
- Co-developed competitive coding platform with **PyQt5** and **Flask**
- Built real-time battle system with **WebSocket** for 2-player matches
- Implemented LeetCode-style question bank with **SQLite** (50+ challenges)

ACADEMIC PROJECTS 2024-2025
- **Logistic Regression Classifier**: Implemented gradient descent with non-linear features
- **Data Compression (CamZIP)**: Built tool using Shannon-Fano, Huffman/Arithmetic coding
- **Neural Coding**: Simulated efficient coding principles in visual cortex
- **CT Visualization**: Engineered 3D medical data interpolation with Vulkan rendering

EDUCATION

UNIVERSITY OF CAMBRIDGE
B/MEng Engineering
Information and Computational Engineering
Oct 2022 - June 2026 | Cambridge, UK
Est. Grade: 1st/2.i

SHENZHEN COLLEGE OF INTERNATIONAL EDUCATION
A-Levels
Aug 2018 - June 2022 | Shenzhen, China | Final grade A*A*A*A*

KEY COURSEWORK

Inference & Machine Learning, Statistical Signal Processing, Information Theory & Coding, Systems & Control, Medical Imaging & 3D Graphics, Neuroscience

TECHNICAL SKILLS

PROGRAMMING
- Python • C++ • SQL • React • Vanilla HTML/CSS • Javascript • Git • Javascript

ENGINEERING
- Machine Learning • Signal Processing • Data Science • Computer Vision • CAD (SolidWorks, Shapr3D) • LTSpice/CircuitJS

MUSIC
- Logic Pro X • Ableton Live • Analog Synthesis • Audio Engineering

OTHER ACHIEVEMENTS

Internet musical artist accumulating **100k fans** with **300M streams** across various music platforms

LANGUAGES

Mandarin (Native)
English (Proficient)
Cantonese (Intermediate)
Japanese (Beginner)