

Yiqian Liu

Computer Science @ UCL

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Experience

UNDERGRAD TEACHING ASSISTANT Sep 2025 – Present
TA for a first-year module and Programming Tutor at UCL.

Extracurricular

UCL COMPETITIVE PROGRAMMING SOCIETY Nov 2024 – Present
Founding & committee member and speaker. We host topical lectures, contests, and training sessions with 130 members.

JESS AI CLUB Jan 2022 – May 2022
Founder and host of the first purely student-ran club. Its popularity allowed me to introduce NLP theory to 20+ peers.

ACADEMIC RESEARCH May 2023 – Oct 2023
Co-authored a [16-page report](#) on water usage in the UAE. This was an initiative under the [Roots & Shoots](#) movement; the results were presented at the [Expo Awards Ceremony](#).

Competitions

COMPETITIVE PROGRAMMING Jan 2025 – Present
[ICPC: 11th](#) (1st in London) at the 2025 [UKIEPC](#), qualified for NWERC, and training for EUC.
2nd at the Oct 2025 [Recraft Mini-Cup](#)
Codeforces: UK 22nd (Nov 2025). Leetcode: 7.61%.

MATHEMATICAL MODELING Nov 2022; Feb 2023
Awarded *Meritorious* in HiMCM and *successful in triage* in M3C. Led and trained my own team. Performed time-series analysis, non-linear and periodic regression, and dynamics modeling using SciPy and Mathematica.

WHARTON GLOBAL INVESTMENT COMPETITION Sep–Dec 2022
Team leader. Placed #75 using tactical asset allocation.

REGIONAL MATH COMPETITION Feb 2023
DMSL senior bracket [winning team](#) and MVP.

Projects

gws2 (akioweh.com) Oct 2024 – Present
A compact server on continuous deployment prototyped with modern technologies like 0-RTT h3 and reverse proxying.

OiqBot Oct 2021 – Present
Realtime network app with a cooperative concurrency model and modular, hot-loadable plugins. Engineered a non-blocking (de)initialization procedure for quick restarts.

sheepcalc Jul 2025 – Jul 2025
Pure λ-calculus interpreter in Haskell using ADS and Parsec.

AEQ May 2024 – Mar 2025
Python package for analyzing, editing, and generating DSP filters. Supports parametric IIR implemented as cascaded biquads and linear-phase FIR discrete impulse convolution.

Team-based Software Engineering Oct 2025 – Present
An academic management system using Spring Boot & JPA with React developed concurrently as a team of three.

Education

UCL 2024 – 2027
BSc Computer Science Y1: 83.38%

JESS Dubai 2020 – 2024
GCSEs (11), IB Diploma

Technical Skills

ALGORITHMS & DATA-STRUCTURES
Competition code; Technical analysis

APPLICATION PROGRAMMING
Concurrency; RDBMS; REST API;
ASGI; Template programming; Scalable realtime applications

LANGUAGES

Python (5yr): FastAPI, SciPy, aiohttp
C++ (2yr): std c++23 STL; CMake
Java (3yr): Maven; JSP & JSTL, Spring
Haskell (1yr); Lua (1yr); JavaScript (2yr)
Object-oriented, Declarative, Functional

NETWORKING

WAN Architecture, Anycast; DNS,
email security: DNSSEC, DMARC;
NAT, Subnets; LAN administration

DEVOPS & SYSADMIN

Cloud infrastructure / VPS, Terraform;
Enterprise & SE Linux; CI/CD

LOWLEVEL & EEE

ESP-IDF; UART, I2C; Analogue circuit design, Digital design

DATA SCIENCE

Computational modeling: Time-series, Regression, Monte Carlo, Dynamics;
Visualization; Validation & Forecasting

DEVELOPMENT TOOLS

Git, CMake; LSP, DAP; MSYS2, Unix;
NeoVim, JB IDEs, Terminal, SSH

ARTIFICIAL INTELLIGENCE

Understanding of Self-attention, Transformers, Pre-training, Optimizers

TYPESETTING

[LATEX](#), [TiKZ](#), [BibTeX](#)

Misc

LIVE AUDIO & VIDEO

Event audio-visual control & setup;
Live broadcasting; Live audio mixing

NATURAL LANGUAGES

English, Mandarin