

Yiqian Liu

Computer Science @ UCL

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Experience

UNDERGRAD TEACHING ASSISTANT Sep 2025 – Present
Delivers support sessions and answers forum questions for a year-one computer science module 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 28th (May 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 web 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.

LOOPED SOFTWARE July 2025 – Present
Full-stack P2P e-commerce system platform in development.

[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.

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; Entreprise & 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