# Yiqian Liu

Computer Science @ UCL

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## - Education - Institutional -

UCL 2024–2027 Y1: 83.38% BSc Computer Science JESS Dubai 2020–2024 GCSEs, IB Diploma

## - Education - Industry -

ALGORITHMS & DATA-STRUCTURES
Competition code; Technical analysis

Application Programming Concurrency; Relational DB; API design; Generic programming; Scalable realtime applications

Languages & Frameworks Python, C++, Haskell, Lua, Java, JS; Scipy et al., ASGI, SQL, JakartaEE

NETWORK APPLICATION LAN admin., VLAN bridging; Open-WRT; VPN; (D)DNS & SMTP

Sysadmin & Devops
Physical and remote server mgmt.; UEK,
SELinux; CI/CD workflows

LOWLEVEL & EEE ESP-IDF; RTOS; Serial; Analogue signals; Circuit design; Soldering

Data Science

Computational modeling, Time-series; Visualization; Validation & Forecasting

DEVELOPMENT TOOLS

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

Typesetting

 $\LaTeX$ ,  $\Tau ikZ$ ,  $\Beta ib\Tau_{\LaTeX}X$ 

Media & Design Software Adobe CC (Pr, Ps, Ai); FFmpeg

TECHNICAL SOFTWARE Fusion 360, LTSpice, Mathematica

#### - Misc -

Live Audio & Video

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

#### BUTTON-PRESSING

15s: 158wpm 4.18%; 60s: 142wpm 2.15%

Music Piano: ABRSM Gr. 7

Natural Languages English, Mandarin

## - Experience - Team/Social -

UCL COMPETITIVE PROGRAMMING SOCIETY Since Nov 2024 Founding & committee member. Hosts lectures, workshops, and contests; team building & training for competitions.

JESS AI Club Academic year 21–22 Founder and host. Major success; attendance filled entire classroom.

MATHEMATICAL MODELING Nov 2022; Feb 2023 Meritorious (top 23%) in HiMCM and top 25% in M3C. Led and coached team; was school's trailblazer in math modeling.

ACADEMIC RESEARCH May-Oct 2023
Co-authored a report on water usage in the UAE. Presented to leaders of change at the Expo R&S Awards Ceremony 2024.

Wharton Global Investment Competition 2022 Team leader. Rank #75/5088. Best performance in school history. Inspired seven teams to register the following year.

REGIONAL MATH COMPETITION Feb 2023 DMSL senior winning team and MVP. Defeated long-reigning champion, Dubai College.

Environmental Activism 2022-2024 School- and community-wide initiatives as part of the JGI Roots & Shoots movement. Met Dr. Jane Goodall.

VOLUNTARY TEACHING Various Taught EFL to 70+ underprivileged students (summers 22-23). GCSE CS academic mentor (school-year-long).

### – Experience – Individual –

COMPETITIVE PROGRAMMING first 2021 then 2024 Codeforces (UK 28th), Leetcode (7.61%), USACO (Gold), ICPC (Team), Google coding competitions, etc.

gws (akioweh.com) since 2023
"General WebServer". Modern web technology prototyping,
incl. ASGI, h3, reverse proxying, CD, DNSSEC, DMARC

OiqBot since 2020

Realtime network app under a cooperative concurrency model and a modular, hot-loadable plugin structure.  $\sim 67f$ , 3.8k loc

LOOPED SOFTWARE since Jun 2025 Full-stack P2P e-commerce systems platform.

sheepcalc Jul 2025

Pure  $\lambda$ -calculus interpreter in Haskell.

HOMELAB 2024–2025

Incl. Ethernet patching, router modding. Repurposed devices into proxy jump servers, NAS, private DNS resolver.

around 2024
"Advanced EQ". Python package to read, analyze, adjust, and

generate DSP (convolution EQ) filters at high precision.

since 2006