

James Leung

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Education

University of Cambridge — BA Computer Science

Oct 2023 – Jun 2026
Cambridge, UK

- Committee Member, Cambridge University Computing and Technology Society
- 2nd-Year Computer Science Student Representative

Loughborough Grammar School — A Levels & GCSEs

Sept 2018 – Jun 2023
Loughborough, UK

- Achieved A*A*A*A* in A-Level Maths, Further Maths, Computer Science and Physics
- Ten Grade 9s at GCSE
- Founded programming club mentoring younger pupils

Experience

GPU Software Engineer Intern

June 2025 – Present
ARM Remote

- Working on the GPU runtime diagnostics team, I implemented native buffer decompression on the GPU.
- Wrote a bespoke solution for Vulkan, OpenCL and OpenGL.

Open Source Contributor

Jan 2025 – Mar 2025
LLVM (Meta) Remote

- Implemented the first CUDA backend for ClangIR, adding device/host variable handling and surface/texture types to a previously unimplemented feature set
- Enabled successful compilation of the full PolyBench benchmark suite in the ClangIR incubator, demonstrating end-to-end correctness
- Collaborated with ClangIR creator Bruno Cardoso Lopes to upstream patches ([GitHub commits](#))

Software Engineer Intern — AI

Jul 2024 – Sep 2024
Cambridge Kinetics Cambridge, UK

- Built a multimodal ingestion pipeline that transforms images, spreadsheets and natural-language prompts into normalised database schemas, wiring a C# API and Vue.js interface to OpenAI's ChatGPT API
- Developed an in-app analytics module that uses retrieval-augmented generation to craft bar, pie and scatter plots on demand, with plot types selectable via natural-language prompts

Personal Projects

Self-Play RTS Agent — Multi-Agent Reinforcement Learning AI

Apr 2025

- Engineered and trained a self-play RL agent using a PPO-optimised actor-critic policy combined with a convolutional neural network to play a resource-race style RTS game
- This project was my submission for the Cambridge University AI Grant, for which I was awarded £500.

Self-Play Chess AI — Reinforcement Learning Engine

Jul 2022 – Jan 2023

- Developed a self-play chess engine entirely from scratch in C++, combining Monte-Carlo Tree Search with a custom convolutional neural network for position evaluation
- This project was my coursework for A level Computer Science, and scored 75/75.

Sorting Algorithm Visualiser — Algorithmic Performance Explorer

- Designed a Python application comparing classical sorting algorithms on variable-sized inputs with animated visualisations and live performance metrics

3D Cellular Automata Visualiser — GPU-Accelerated Simulation

- Implemented a real-time 3D rendering of multiple cellular automata rules in C++, enabling interactive exploration of emergent behaviour

Awards

- One of 2000 selected for the 2025 Y Combinator AI Startup School
- Winner of £500 CUAJ Grant 2025 for my reinforcement learning RTS game project
- Most Impressive Technical Achievement — 2nd-Year Group Project
- 2nd Place — University of Cambridge Ray-Tracing Competition 2023
- Winner — University of Cambridge Inter-collegiate Badminton League
- Distinction — British Mathematical Olympiad

Technical Skills

Fluent: Python, C++, C | **Proficient:** C#, Java, Rust, OCaml, JavaScript, TypeScript, Prolog, Vue.js, HTML/CSS