# Nok Hang Lo

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## Education

**University of Warwick** — Coventry, UK
*BSc Computer Science (Year 1: First; Year 2: Predicted First)* — *Sep. 2024 – July 2027*

- Achieved 86.5% in Year 1 - 2nd highest mark in the year.

**The Perse School** — Cambridge, UK
*A-Levels: A*A*A*A* (Maths, Further Maths, Physics, Computer Science)* — *Sep. 2022 – Jun. 2024*

## Achievements and Awards

- Awarded **Exceptional Achievement prize** for **2nd highest mark** in First Year.
- Led a team of three to 3rd place at UKIEPC 2024 (Warwick site) and 1st place in the University of Warwick Computing Society programming competition.

## Experience

**Warwick Coding Society | Captain of Cluster Challenge Team** — Oct. 2025 – Dec. 2025

- Led Team CodeSoc to 1st place in the CIUK Cluster Challenge prelim round and 2nd place in the OCF challenge.
- Gained experience running and optimising jobs on large clusters with **SLURM** and **Open MPI**, and utilised **Kubernetes**, **Kafka**, **Prometheus**, and **Grafana** for data collection, analysis, and performance monitoring.
- Collaborated closely with team members to coordinate tasks and deliver results under tight deadlines.

**The Access Project | Volunteer Tutor** — Sep. 2025 – Present

- Mentored and tutored a Year 10 student in GCSE Maths weekly via the Access Project, a non-profit volunteering tutoring organisation, helping them extend their abilities whilst enhancing my teaching skills.

**Free Software Foundation | Systems Operations Volunteer** — Jun. 2025 – Present

- Migrated a MediaWiki instance, *libreplanet.org*, and tested the *h-node* **PHP** stack on **Apache** with **Cucumber**, strengthening **Linux**, **system administration**, web, and **testing** practice.
- Collaborated with a 10-person remote team via weekly stand-ups using Mumble/IRC/Etherpad and Git remotes.

**The Perse School | Educational Website & Competition Contributor** — Jul. 2024 – Present

- Created 55 A-Level Computer Science tutorials for *pythonsponge.com* and authored questions for the school-hosted national programming competition, *PCTC*, developing problem-solving, programming, and teamwork skills.

## Projects

**Compiler and RTL Microprocessor** | *Python, Verilog*

- Designed a custom 32-bit ISA and compiler translating a Python-like language to machine code for a pipelined Verilog microprocessor, supporting control structures, loops, and arrays.
- Verified by running the Sieve of Eratosthenes for primes under 1000 using **iverilog**, **vvp**, and **gtkwave**.

**Python Chess Bot** | *Python*

- Built a 2000-rated chess engine in Python using the minimax algorithm, with optimisations such as alpha-beta, move ordering, transposition tables, and aspiration windows to improve efficiency.
- Single position benchmark: reduced nodes by 88.9% compared to early baseline.

**Text Editor** | *C*

- Extended a simple C-based terminal text editor, kilo to add modal editing, Vim motions, and yank/paste.
- Set up a CMake build for development, gained hands-on experience with buffer/terminal I/O and pointer-level debugging using **gdb** and **valgrind**.

## Technical Skills

**Languages**: Python, C++, C, Rust, Java, TypeScript/JavaScript, Haskell
**Systems & Tools**: Unix/Linux, Windows, Bash/Zsh, Git, Neovim/Vim, GPG, QEMU/KVM, CMake, gdb, valgrind
**Web Technologies**: Next.js, React.js, Node.js, Express.js, Tailwind, MySQL
**HPC Tools**: SLURM, Open MPI, HPL/HPCG, LIKWID, profiling/benchmarking
**DevOps & Monitoring**: Kubernetes, Grafana, Kafka, Prometheus