

RAGHAV AWASTHI

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EDUCATION

University College London (UCL)	Sept. 2023 – June 2026
BSc Computer Science	On track for a 1st Class
Dubai College	Aug. 2016 – June 2023
A-Levels	Computer Science, Physics, Maths, Further Maths, and EPQ (A*A*A*A*A)

EXPERIENCE

Full-Stack Developer <i>Adamas Data</i>	Aug. 2024 – Oct. 2024
Skills: <i>FastAPI, Postgres, JS, LeafletJS, Python, Bash</i>	
<ul style="list-style-type: none">Developed a comprehensive full-stack web application from the ground up, serving as a database management system (DBMS) with a user-friendly interface.Secured and optimised database connections by implementing robust endpoints for advanced search and sorting functionalities, ensuring high performance and security.Enhanced data visualization through the integration of an interactive map-plotting feature, streamlining data interpretation, and improving user experience.	
AI/ML and Quantum Security Intern <i>Tech Mahindra - Makers Lab</i>	June 2024 – Aug. 2024
Skills: <i>HuggingFace, PyTorch, Selenium, Gradio, JS, Flask, Bash, IBM Qiskit, OpenSSL</i>	
<ul style="list-style-type: none">Led a team to train and deploy ThaiLLM, a fine-tuned Large Language Model (LLM) for users in Thailand specifically in the domains of healthcare, national identification, and other government services.Added retrieval-augmented generation (RAG) to Garuda, one of the company's biggest LLM projects.Implemented the National Institute of Standards and Technology's (NIST) Post-Quantum Cryptographic (PQC) Key Encapsulation Mechanisms (KEM) and worked towards integrating them with the Transport Layer Security (TLS) protocol.Wrote many internal research reports and documentation for technical and design choices made for various projects, including my own research into the most efficient frameworks in the relevant disciplines.	
Researcher <i>Cambridge Centre for International Research</i>	May 2022 – Oct. 2022
Skills: <i>Python, Networkx, Matplotlib</i>	
<ul style="list-style-type: none">Conducted research investigating cascades and components when simulating Susceptible-Infected-Susceptible (SIS) infection models on different network structure.Worked alongside Dr. Jonas L. Juul, Cornell University to analyse these changes.	
Post-Quantum Cryptography Researcher <i>Pioneer Academics</i>	Feb. 2022 – July 2022
Skills: <i>C, Bash, Linux</i>	
<ul style="list-style-type: none">Wrote a research paper about PQC comparing the NIST Standardization Project Round 3 Finalists' algorithms.Conducted lots of research, mathematical, and empirical analysis about Code-based, Lattice-based, and Multivariate-based PQC algorithms in particular.Worked under the tutelage of Dr. Suleyman Uludag, University of Michigan - Flint.	

PROJECTS

Audio Book Generator App (E/Acc Hackathon)	Skills: <i>Python, Firebase, OpenAI, ElevenLabs, TypeScript</i>
Developed a mobile app that takes in user prompts and preferences for a storyline and produces a fully customised complete story as an audio book 🌐 in.	
Assembly Code Visualiser and Editor	Skills: <i>NodeJS, ExpressJS, SQL</i>
Created a platform for students to learn about Computer Architecture . Can be used as a learning tool to assign practice Assembly Code problems, and includes a Little Man Computer visualisation 🌐.	

TECHNICAL SKILLS

Proficient:

- Languages:* Python, C, JavaScript, Bash, SQL
- Frameworks/Tools:* NodeJS, ExpressJS, jQuery, Git, Flask, Postgres, FastAPI, Numpy, Pandas, PyTorch

Experienced:

- Languages:* Rust, Java, Haskell, C++
- Frameworks/Tools:* Metasploit, Selenium, Docker, NextJS