

# RAGHAV AWASTHI

+447448420483 | [raghavawasthi2005@gmail.com](mailto:raghavawasthi2005@gmail.com) | [linkedin.com/in/raghavawasthi2005](https://www.linkedin.com/in/raghavawasthi2005) | [github.com/raghav2005](https://github.com/raghav2005)

## EDUCATION

University College London (UCL)

London, UK

*Bachelor of Science in Computer Science with predicted First Class Honours*

Sep 2023 — Jun 2026

Dubai College

Dubai, UAE

*A\*A\*A\*A\*A in A-Levels and 11 9s in GCSEs*

Aug 2016 — Jun 2023

## EXPERIENCE

Cybersecurity Analyst

Jun 2025 — Aug 2025

*Barclays*

*Knutsford, UK*

- Delivered **60-page PQC/HSM report**: mapped cryptography use across **30+** services; built **HSM PQC capability matrix & gap analysis**; proposed **5-phase PQC roadmap**; projected **20–30%** faster PQC migration.
- Built Python services to ingest **CertNow/ServiceFirst**, auto-enrich CA chains & classify root causes; added risk scoring & ServiceNow descriptor standardisation, **reducing triage time by 25%** and flagging **30+** high-risk certs.
- Researched and identified **100+** high-signal **threat keywords** for internal company risk; **deployed solutions** to production and increased detections by **15-20%** in pilot.

Full-Stack Developer

Aug 2024 — Oct 2024

*Adamas Data*

*London, UK*

- Architected and shipped a production-grade DBMS web application** end-to-end: **FastAPI** micro-services; **PostgreSQL** + **PostGIS** data layer; responsive **Next.js** front-end with server-side rendering.
- Designed versioned **REST API (30+ endpoints)** over **PostgreSQL** + **PostGIS**; indexed queries to serve **140M+ rows** with median latency **<3s** across **150+ filters**; shipped via Dockerised CI/CD (**<10-min rollback**).

AI/ML and Quantum Security Intern

Jun 2024 — Aug 2024

*Tech Mahindra*

*Pune, India*

- Led a 5-person R&D team** to build **ThaiLLM** (7B parameter model); fine-tuned with **LoRA** on **120k** curated records; cut mean GPU inference latency by **20%**; raised domain **F1** by **15%** on a 6k-question benchmark.
- Embedded Retrieval-Augmented Generation (RAG)** into **Garuda** (company's biggest LLM); Hybrid BM25 + MiniLM re-ranker pushed **top-1 retrieval MRR up 25%**; reduced hallucination rate to **7%**.
- Researched **NIST PQC KEM finalists** and began implementing **hybrid TLS 1.3 with ML-KEM** POC in Python.

## PROJECTS

Quantum Proximity Gateway (IBM & UCL) | *Python, Rust, Next.js, C++*

Oct 2024 — May 2025

- An IoT edge-to-cloud system (ESP32 BLE beacons, Raspberry Pi facial recognition, Pico USB-HID emulation) which **auto-authenticates hot-desk PCs on user approach**.

Playo (Audiobook Generator App) | *Python, Firebase, OpenAI, ElevenLabs, TypeScript*

Jan 2024

- Mobile application** that uses user prompts & preferences to create **fully customised stories** as **audiobooks**.

Assembly Code Visualiser | *Node.js, Express.js, SQL, Docker*

Jun 2022 — Mar 2023

- Built a web application **Assembly IDE** and **interactive Little Man Computer visualiser**, letting students step through CPU/RAM states. Acts as a **learning/teaching platform**, allowing teachers to assign challenges.

## TECHNICAL SKILLS

**Languages:** Python, C/C++, Rust, Bash, SQL, JS/TS, Java, Haskell, HTML/CSS

**Backend/Web:** FastAPI, Flask, Node.js, React/Next.js, Pydantic, Express.js

**Data/ML/DB:** PostgreSQL, SQLite, Redis, SQLAlchemy, Alembic, Pandas, NumPy, PyTorch, TensorFlow, Matplotlib

**Developer Tools/Testing:** Git, Docker, VS Code, Emacs, JUnit, Selenium

**Other:** Gradio, OpenSSL, Metasploit, IBM Qiskit, Excel, Figma, Photoshop, GIMP

## AWARDS/ACHIEVEMENTS & LEADERSHIP

- Ranked **1st** (school) in the **ISMETF** (International Schools Mathematics Teacher Foundation) competition, 2022.
- Ranked **Top 5** in the **national** University of Wollongong, Dubai, **Mathalon**, 2022.
- Achieved **2x Gold** awards in **UKMT** (UK Maths Trust) **Senior** and **2x Gold** awards in **UKMT Intermediate**.
- Received **Highest Achiever** academic excellence award for **Computer Science** from headmaster, 2023.
- Cricket vice-captain & programming tutor** for 1st years, UCL; **Technical blog writer**, UCL Devs Blog; 1st XI **cricket vice-captain & CS teaching assistant**, Dubai College; **Head of Dubai Computing Community**, 2021-23.