Eshan Sharif

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Education

The University of Warwick — Coventry, UK
BSc in Computer Science (First Class Honours) — *Sept 2023 – Jul 2026*

Ashmole Academy — London, UK
*A Levels: A*A*A in Mathematics, Biology, and Chemistry* — *Sept 2020 – Aug 2022*

Experience

PA Consulting — Jun 2025 – Present
Software Engineer, Software and Controls (Oct 2026 – Present) — *Cambridge, UK*

- Prototyping embedded C++ firmware on Zephyr RTOS for medical device projects in a regulated setting
- Joining a finance project running local LLMs for a client that bars hosted AI tools such as Claude Code
- Building LangGraph agent workflows, trialling pi.dev to ticket and log each agent action for audit

Software Engineer Intern (Jun 2025 – Aug 2025)

- Built a React Native capture app with a FastAPI backend on a Raspberry Pi, signing images with C2PA Python
- Designed tamper detection by diffing re-derived hashes against the C2PA manifest, plus Lab colour watermarks
- Deployed to PA's air-gapped on-premises servers, pulling dependencies via Artifactory and a GitLab cache
- Wired a Jenkins and Docker CI/CD pipeline to staging, using Claude Code under strict TDD to write tests first

AI Education Officer — Oct 2025 – Jun 2026
Warwick Medical AI Society — *Coventry, UK*

- Designed and taught a 6-week course taking 60+ non-technical students from zero coding to training models
- Ran hands-on pathology sessions on TIA's HoVer-Net, using zero-setup Git repos so sessions began on code

Research Intern, Applied AI in Medical Imaging — Aug 2025 – Sep 2025
TIA Centre, University of Warwick — *Coventry, UK*

- Built a modular gigapixel slide pipeline in Python with TIAToolbox: tiling, stain normalisation, QC filtering
- Ran HoVer-Net nuclei segmentation over TCGA slides, batching tiles to cut per-slide runtime
- Aggregated per-nucleus counts into slide-level features, scoring ROC AUC and F1 under fixed seeds in Git

EDC Programmer Intern — Jul 2024 – Sep 2024
Jazz Pharmaceuticals — *London, UK*

- Developed C# functions and automated EDC workflows across multiple concurrent regulated trials
- Integrated EDC systems with clinical databases, catching discrepancies to cut manual reconciliation

Projects

Cloud-Penetrating Deforestation Detection | *Python, PyTorch, Google Cloud, Docker, MCP* — Jun 2026

- Won the hardest track at Treefera's 25-team hackathon: cloud cover hides forest loss, breaking carbon checks
- Swapped optical imagery for cloud-penetrating Sentinel-1 radar via Earth Engine, 8 years across 100,000 ha
- Deployed a Docker API, MCP server and dashboard to Cloud Run flagging 6,545 ha, built with Claude sub-agents

Multimodal Football Intelligence (Dissertation) | *PyTorch, ONNX, FastAPI, React* — Oct 2025 – Apr 2026

- Built tactical analysis from one broadcast camera, tracking players at 0.916 IDF1 with YOLOv8x and ByteTrack
- Hit 24 FPS with ONNX FP16 batching, served by FastAPI with a RunPod GPU worker and Supabase Postgres
- Trained a 2.5D CNN event classifier with a calibrated cascade, lifting macro F1 from 0.516 to 0.647
- Built an LLM eval harness (FActScore, G-Eval, 58-question QA) with Claude Haiku and GPT-4o as judges
- Linear-probed Qwen2-VL-7B on text vs chart inputs to stop invented stats, lifting grounding from 48.7% to 70.2%

Mini C Compiler | *C++, Flex, LLVM IR* — Sep 2025 – Nov 2025

- Built a lexer and LALR(1) parser producing a complete AST, with semantic analysis over scoped symbol tables
- Emitted LLVM IR for expressions and control flow, then linked x86_64 binaries with `llc` and `clang`
- Wrote optimisation passes for constant folding and dead code elimination, cutting IR by 20% over 120+ tests

Technical Skills

Languages: C, C++, Python, TypeScript, Java, SQL, Bash, Linux
AI and Systems: PyTorch, ONNX, LLVM, Zephyr RTOS, MCP, LangGraph, LLM evaluation (FActScore, G-Eval)
Cloud and DevOps: Google Cloud Associate Cloud Engineer, AWS Cloud Practitioner (in progress), Docker, Jenkins
AI Dev Tools: Claude Code, Codex, pi.dev, sub-agent workflows, test-driven development, code review