Jack Wang

(+44) 74832 84884 | jackdwang611@gmail.com | London, United Kingdom

EDUCATION

University of Cambridge — **Cambridge, United Kingdom**
MEng Engineering — *Oct 2025 – Jun 2029*

- **Grade:** First Class Honours (Expected)

St. Paul's School — **London, United Kingdom**
A-Levels — *Sep 2023 – Jun 2025*

- **Grades:** Mathematics (A*), Further Mathematics (A*), Physics (A*), Chemistry (A), EPQ (A)
- **Awards:** UKMT Senior Maths Challenge (Merit, 2024), Senior Physics Challenge (Gold, 2024)

TECHNICAL PROJECT EXPERIENCE

History-Based AI Decision Advisor – OxHacks 26

- Built a full-stack web app (Next.js, TypeScript, PostgreSQL) deployed on Vercel that helps users weigh decisions against historical cases, tracing 400+ claims to exact passages in 101 sources so every point is verifiable
- Designed a multi-stage LLM pipeline (OpenRouter) that profiles each decision, retrieves similar historical cases, scores their fit on 4 weighted criteria with Jev by TypeSafe AI, writes and fact-checks the advice in ~40s
- Engineered a remote MCP server exposing 3 case-matching and advice tools, packaged as both a Claude skill and a ChatGPT plugin so users can draw on historical precedents directly inside the AI assistants they use

Clear the Dark – CapCut x East2046 Cambridge Creator Lab Winner

- Designed and built an interactive storytelling page (HTML, CSS, JavaScript) to win donors for charity IRPH, having visitors act out its mission by clearing fog and walking into a garden before meeting the people it helps
- Embedded a first-person 3D walk built in MANI Engine via an iframe, preloading a matching spawn screenshot for seamless entry, and using a postMessage handshake to move visitors to the next section when it ends
- Wrote a Python build script that embeds all images into one self-contained 610 KB HTML file, plus an 8-step reusable workflow so the charity can create new campaign pages that are fact-checked and thoroughly tested

EMA Crossover Algorithmic Trading Bot

- Engineered an automated trading system (Python, Pandas, IG Group REST API) for the Nikkei 225, receiving streamed data through an event broker to enter EMA crossover positions based on 15-minute price movements
- Designed profitable entry and risk logic by backtesting extensively against historical index data, anchoring stop-losses to the low or high of the preceding candle and closing stock positions using price and EMA trend reversals

Facial Recognition Attendance System

- Developed a boarding-house facial recognition system (Python, OpenCV, MySQL) to enrol students, flag visitors and track in-house status, matching detected faces via webcam against a database of reference photos
- Created a Tkinter dashboard for house staff to add, remove and update student records and see attendance

Flood Warning Detector

- Built a flood-risk detector (Python, NumPy, Matplotlib) using the UK Environment Agency's API, modelling ~1,800 monitoring stations to rank towns using water level trends, normalised using station height and distance
- Filtered relevant stations for a town using haversine radius and rejecting those with missing or inverted typical low/high water level ranges, preventing malformed reference data from propagating into flood-risk rankings

EXTRACURRICULAR EXPERIENCE

International Young Physicists' Tournament (IYPT) — **London, United Kingdom**
Team Lead — *Nov 2023 – Jun 2024*

- Led a 5-member national team at the IYPT, coordinating research and experimentation on 17 open-ended physics problems, securing consensus on methodologies, and ensuring timely, rigorous preparation
- Directed collaboration between researchers and presenters and mentored teammates on experimental design

SKILLS

Languages: English, Mandarin, Python, Javascript/Typescript, HTML, CSS, SQL
Libraries, Frameworks & Tools: Next.js, PostgreSQL, MySQL, NumPy, BeautifulSoup, OpenCV, Tkinter