Jay Shah

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Portfolio: `https://jayrshah.vercel.app/` | GitHub: `https://github.com/jays41`

EDUCATION

King's College London   *Expected Graduation May 2026*
BSc Computer Science (expected grade: 1st Class Honours
Roundwood Park School   *2016-2023*
- A-Levels: Maths (A*), Further Maths (A*), Computer Science (A), Physics (A)
- GCSEs: Nine grade 9s

ACHIEVEMENTS

Mathematical Olympiads
- Junior Mathematical Olympiad (2018): Achieved Distinction and Medal, ranking in the top 200 nationally
- Intermediate Mathematical Olympiad - Cayley (2019): Earned Distinction and Medal, placing in the top 100 nationally

EXPERIENCE

HubSpot   **London**
Software Engineering Intern   *July - September 2025*
- Built and shipped production-grade features across the full stack (React, TypeScript, Java) as part of the Data Sync team
- Engineered a smart account verification polling system that reduced redundant API calls and significantly improved verification completion times
- Implemented an intelligent sync restart mechanism and fixed critical app status inaccuracies
- Strengthened product reliability with comprehensive automated test suites and rigorous acceptance testing

Ashbury Global   **London / Remote**
Data Administrator   *July - September 2024*
- Cleansed and validated client data for major retailers such as Aldi, Tesco, Waitrose, and Greggs, ensuring accuracy and readiness for migration to the company's new system
- Automated the data validation process using Python, enforcing accuracy and improving efficiency by over 12 times compared to the previously used manual workflows

Valtech   **London**
Software Developer Intern   *June - July 2024*
- Developed new features in React for Ocado Technologies, improving frontend performance and user experience
- Collaborated in a team setting while independently delivering components and writing unit tests in Jest
- Conducted peer reviews and proposed improvements prior to deployment

Armalytix   **London / Remote**
Software Developer Work Experience   *May 2022*
- Conducted research and development into the use of machine learning algorithms with TensorFlow to categorise financial transactions
- Automated API testing using Postman and developed end-to-end test suites with Playwright in Python to streamline workflows

Tutoring roles   **Hertfordshire / Remote**
Computer Science, Maths and English Tutor   *May 2024 - Present*
- Delivered lessons to students ranging from KS1 to A-Level, both in-person and online, for Kumon, managing groups of up to 25 students.
- Provided personalised one-to-one tutoring to 9 GCSE and A-Level students, creating lesson plans and interactive materials to address individual student needs, enhancing engagement

PROJECTS

Explainable AI for Financial Forecasting
- Built a variety of XAI models from scratch using Python to forecast time series data using RSI, MACD, volatility, return, and momentum
- Implemented custom models: rule-based classifier, KMeans clustering, Gini-based Decision Tree, and an XGBoost variant with explainability features, including a custom implementation of SHAP
- Designed the system for use in interpretable financial contexts, balancing signal strength with model transparency

King's Capital (King's Business Club)   *October 2024 - Present*
Senior Quantitative Trading Associate
- Developed and back-tested systematic trading strategies (market-neutral, factor tilt, beta-neutral) in Python and C++
- Applied mean-variance optimisation, alpha generation, and risk-neutral hedging
- Presented findings to Managing Directors and VPs in Deutsche Bank's Quantitative Research team and refined the models based on their feedback
- Co-authored a research paper exploring FinBERT applications for sentiment analysis in financial markets
- Built and deployed a FinBERT-based sentiment analysis platform that is now actively used by members of the society
- Mentored members of the society's academy, teaching Python and basic portfolio theory

Valkyrie
Co-Founder and Full-Stack Engineer
- Built and deployed a full-stack customer feedback platform used by paying clients in the service and hospitality sector
- Designed and implemented automated task generation directly from customer feedback, leveraging GPT-4-based sentiment analysis and classification pipelines
- Developed robust backend infrastructure using Ruby on Rails with multi-tenant support, Redis caching, and API rate limiting
- Engineered the frontend in Next.js, integrated user analytics, and maintained deployment and CI pipelines for feature delivery

TECHNICAL SKILLS

Programming Languages: Python, JavaScript, TypeScript, Java, C++, Scala, SQL, HTML/CSS
Frameworks and Tools: React, Next.js, Node.js, Django, Flask, Ruby on Rails, TensorFlow, NumPy, Pandas, Jasmine, Jest, Playwright, Postman, Redis