

Education

Imperial College London – *Physics MSci*

Oct 2022 - Jun 2026

- Predicted Upper Second Class.
- Comprehensive study of Differential Equations, Probability Analysis and Distributions, Monte Carlo methods, Regression Analysis, Multivariate Statistical methods, Data Science and Machine Learning.
- Self-taught modules in Data Structures & Algorithms and Financial Mathematics, Stochastics & Options Pricing.
- Active member of the Imperial Algorithmic Investment Society.

Bishopshalt School

Sep 2020 - Aug 2022

- Achieved 3 A*s at A-level in Maths, Physics, and Computer Science.

Rosedale College

Sep 2015 - Aug 2020

- Achieved 13 GCSEs with grades 9 to 8 including Maths and English, and 2 Distinctions.
- Valedictorian, recognised for academic excellence and leadership qualities.

Professional Experience

Tutor – *Private Tutoring / Cherry Hill Tuition*

Sep 2020 - Present / Jun 2023 - Aug 2023

- Designed custom learning platforms, utilizing Python-based algorithms and automated assessments to analyze student weaknesses, achieving a consistent 15-20% improvement in performance across STEM subjects.
- Led collaborative problem-solving workshops using data-driven feedback systems, increasing student engagement by 30% through the application of adaptive learning technologies and real-time tracking of progress.

Sam's Refrigeration Ltd – *IT Consultant*

May 2019 - Mar 2020

- Developed and implemented secure network architectures using firewalls, VPNs, and encryption protocols, reducing overall network vulnerabilities by 25% and ensuring compliance with cybersecurity standards.
- Configured a custom NAS server with RAID configurations to enable real-time data backups and redundancy, improving data reliability by 32% and reducing system downtime through automated recovery mechanisms.

Projects (See Portfolio)

MarketSeer – *Project development lead*

Mar 2024 - Present

- Spearheading the development of a TensorFlow-powered forecasting model using an ARIMA-CNN-LSTM hybrid architecture to analyze high-frequency financial data, achieving a 58% accuracy rate on time-series predictions while optimizing hyperparameters for better performance.
- Evaluated and implemented a D3.js-based interactive dashboard to visualize real-time predictive insights and risk metrics, providing financial analysts with actionable data, improving decision-making, and mitigating potential losses.

Portfolio Risk Management System – *Project Manager*

Apr 2024 - Present

- Programmed a C++ real-time risk management platform that computes Value at Risk (VaR) and Conditional VaR (CVaR), enhancing portfolio risk monitoring and improving asset allocation strategies by 20% under stressed market conditions.
- Integrated a backtesting framework with simulated historical data to validate and refine risk models, allowing for continuous optimization of portfolio strategies by analyzing historical performance and volatility trends.

Re-Spotify – *Consultant Developer*

Feb 2024 - May 2024

- Coded a RESTful API for Spotify playlist management, improving data retrieval efficiency by 15% through optimized query handling and adding features for content download without a subscription.
- Built AI-driven recommendation algorithms using collaborative filtering and content-based filtering, increasing user satisfaction by 18% through personalized playlists. Conducted A/B testing to refine algorithm performance.

Gyroscopic Stabiliser – *Project Lead*

Apr 2023 - Jun 2023

- Engineered a real-time gyroscopic stabilization system using accelerometer data and Lagrangian mechanics, improving platform stability by 54% through precise motor control algorithms coded in Python for dynamic adjustments.
- Implemented a predictive feedback loop to enhance stabilization efficiency, utilizing signal processing techniques to optimize system responses to rapid environmental changes, resulting in a more robust and reliable stabilization process.

Technical Skills

Language Proficiencies: Python (Advanced), C++, JavaScript, Java, SQL, HTML, CSS, PHP.

Frameworks & Libraries: React.js, Node.js, Flask, TensorFlow, PyTorch, D3.js, SKlearn, Matplotlib, NumPy, SciPy, Pandas.

Developer Tools: Git, Docker, Linux, AWS, Jupyter Notebooks, MongoDB, VS Code.

Soft Skills, Activities and Interests

Languages: English (fluent), Urdu/Punjabi/Hindi (conversational).

Soft Skills: Analytical Thinking, Problem Solving, Leadership, Communication, Collaboration, Attention to Detail.

Networking Events:

- SEO London, Spring into Insurance Event, learning about risk management and networking with professionals.
- Diverse AI: discussing neural networks, machine learning, and its uses in everyday business and cloud services.

Sports: Gold medallist in Borough Badminton Championships, School Basketball Team Captain.

Hobbies: National RC Car Racing Champion (U18), Gym (addicted), Amateur Photographer, Long Term Trader, Volunteering for local community services, Reading on human psychology.