# Mohammed Zain Mughal

### **Education**

### Imperial College London, Physics MSci

Oct 2022 - Jun 2026

- Predicted First-Class Honors.
- Focus on mathematical and statistical methods alongside Quantum mechanics, emphasizing analytical problem-solving and critical thinking skills.
- Completed Imperial Horizons module in Accounting and Finance.
- Active member of Imperial Investment and Finance Society, participating in various workshops and competitions.

#### **Bishopshalt School**

Sep 2020 - Aug 2022

• Achieved 3 A\*s at A-level in Maths, Physics, and Computer Science, demonstrating strong academic performance.

### Rosedale College

Sep 2015 - Aug 2020

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

## **Professional Experience**

Private Tutor

Jan 2022 - Present

- Developed customized tutoring plans using diagnostic assessments and interactive problem-solving for Physics, Maths, and Computer Science for 20+ students, improving grades by 2 levels.
- Designed and implemented lesson plans using adaptive learning technologies, addressing student needs and achieving a 95% satisfaction rate through positive feedback.

**Cherry Hill Tuition** 

Jun 2023 - Aug 2023

- Facilitated group tutoring in Maths and Physics, using discussions and peer assessments to boost collaboration and student engagement by 30%.
- Contributed to curriculum development and student assessment, using collaborative projects and unbiased evaluations, improving overall performance by 15%.

Sam's Refrigeration Ltd

May 2019 - Mar 2020

- Delivered IT consultancy by diagnosing and resolving technical issues, and implementing security measures like firewall configurations and encryption protocols for data protection.
- Developed and installed a NAS server system with advanced backup technologies, improving data retention by 32% with robust backup solutions.

## **Projects (see Portfolio)**

### MarketSeer: Financial Forecasting Application

Mar 2024 - Present

- Developed MarketSeer using React for front-end and Flask for back-end, integrating TensorFlow to run predictive models such as LSTM and ARIMA for analyzing historical data and sentiment indicators, achieving a 64% accuracy rate and aiming for 85%.
- Designed a user-friendly dashboard displaying predictive insights, interactive data visualizations using D3.js, and simulation tools for risk assessment, enhancing user decision-making capabilities and overall experience.

### Portfolio Risk Management System

Apr 2024 - Present

- Developed a Portfolio Risk Management System using C++ to calculate risk assessment metrics like VaR and CVaR, implementing Monte Carlo simulations with Python and historical data analysis to quantify financial risk, predicting a 20% improvement in risk management effectiveness.
- Created detailed risk reports and dashboards using Tableau to visualize risk metrics and trends, aiding in strategic decision-making and providing valuable insights for portfolio management.

#### **Advanced Gyroscopic Stabilization Systems**

Apr 2023 - Jun 2023

- Developed a gyroscopic stabilization device using advanced control systems such as PID controllers and real-time data analytics including Kalman filters, resulting in a 54% increase in stability and performance.
- Built a prototype using Arduino for hardware control and Python for analytical processing, demonstrating a significant increase in device stability through precise control and data analysis.

### Skills

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

**Technical Skills:** Python (advanced), HTML, Matlab, PHP, C/C++, VBA, Machine Learning Implementations, Git, Financial Modeling

Soft Skills: Communication, Critical Thinking, Problem-Solving, Collaboration, Leadership, Time Management

### **Activities and Interests**

**Networking Events:** SEO London, Spring into Insurance Event, gaining insights into the insurance industry, networking with professionals, and learning about risk management and underwriting processes to enhance industry knowledge.

Sports: Gold medalist in Borough Badminton Championships, School Basketball Team captain

**Hobbies:** National RC Car Racing Champion (multiple under-18 titles), Gym (addicted), Trader (long-term), Chess Enthusiast, Amateur Photographer, Volunteering for local community services