Syed Ali Imam

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Education

University College London *September 2025 – Present*
Integrated Masters in Physics - First Class Honours London, UK
Global Undergraduate Scholarship Awardee (Full Ride, <0.7% Acceptance Rate)

Cedar College *August 2023 – July 2025*
*Cambridge International A Levels – 3A*s 1A* Karachi, Pakistan
Subjects: Mathematics, Physics, Computer Science, Further Mathematics (A)
Achievements: 100% Merit Scholarship, Dean's List, Cedar Leadership Award, National Science Bowl Pakistan Runners Up, Top 50 Under-20 Mathematicians of Pakistan

Experience

Undergraduate Research Assistant *May 2026 – Present*
University College London London, UK
- Conduct computational research into non-adiabatic quantum dynamics using numerical simulations and benchmark models
- Analyse numerical outputs and compare modelling approaches across varying parameters to identify patterns, limitations and model behaviour
- Presented research findings at the UCL Student Symposium and currently preparing the results for research publication

One Desk Student Assistant - IT *September 2026 – Present*
University College London London, UK
- Provide first-line IT support to students and staff, resolving account, MFA and access-related issues across multiple channels
- Manage queries through to resolution while communicating technical information clearly and working within SLAs and escalation procedures

Projects

PitWall – Formula 1 Strategy Analytics *September 2026*
- Built an end-to-end Formula 1 analytics pipeline from the OpenF1 API, transforming 70 races and 1,395 driver-race records across 24 circuits into reproducible tyre, pit-stop and race-outcome features
- Developed an interpretable recommendation model using similarity weighting, empirical-Bayes shrinkage, effective sample size and uncertainty ranges to compare historically observed dry-race strategies
- Evaluated the model chronologically using prior-only race data, achieving 2.371 finishing-position MAE versus a 2.458 grid-position baseline, and delivered results through a FastAPI application with evidence tables and 11 automated tests

ExoSignal - TESS Exoplanet Analysis & ML Benchmark *October 2026*
- Built an end-to-end scientific ML pipeline using 2,501 NASA-labelled exoplanet targets, combining reproducible catalogue ingestion with leakage-aware TIC-level train/validation/test splitting
- Developed and compared Logistic Regression and calibrated Random Forest classifiers using stellar and transit parameters, achieving 80.3% held-out accuracy, 85.1% PR-AUC and 88.3% ROC-AUC
- Integrated NASA MAST and Exoplanet Archive data with a real TESS photometry workflow for multi-sector preprocessing, BLS transit searching and on-demand target analysis

ResearchOS - Evidence-First LLM Research Assistant *October 2026*
- Built an end-to-end research data pipeline for uploaded PDFs and OpenAlex-discovered papers, preserving document, page, section, author, year, DOI and source metadata throughout ingestion and retrieval
- Developed a hybrid information-retrieval system combining sentence embeddings, BM25, Reciprocal Rank Fusion, metadata filtering and lightweight reranking
- Created a manually checked 50-question benchmark comparing retrieval strategies using Recall@5, MRR@5, nDCG@5 and latency, alongside citation correctness, groundedness and unsupported-claim rate

Leadership & Activities

Research Executive *August 2026 – Present*
UCL Data Science Society London, UK
- Contribute to research-led initiatives and technical content across data science and artificial intelligence

Competitions Officer *July 2026 – Present*
UCL Mathematics Society London, UK
- Support the organisation of mathematics competitions and problem-solving activities for students across UCL

Transition Mentor *August 2026 – Present*
University College London London, UK
- Mentor incoming students through their transition to university by providing academic and practical guidance

Skills

Programming: Python, SQL, C++
Data & ML: Pandas, NumPy, scikit-learn, Matplotlib, Machine Learning, NLP, Feature Engineering
Quantitative: Statistical Analysis, Probability, Hypothesis Testing, Model Validation, Uncertainty Quantification
Research: Computational Modelling, Numerical Methods, Scientific Communication
Tools: Git/GitHub, Jupyter Notebook, FastAPI, pytest, REST APIs, LaTeX