Ali Ammar

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Education

University Paris-Saclay **Paris, France**

M2 Genomics, Informatics, and Mathematics for Health *September 2025- August 2026*

- **Selected Coursework:** Advanced Functional Genomics, Data Integration and Big Data, Algorithm and Combinatorial Optimization, Comparatives Genomics.

University of Birmingham **Birmingham, Uk**

MS in Data Science, 3.75 GPA (Merit) *September 2023 - November 2024*

- **Selected Coursework:** Algorithms for Data Science, Programming for Data Science, Data Visualization, Storing and Managing Data, Current Topics in Data Science.

Lahore School of Economics **Lahore, Pakistan**

BSc in Economics and Marketing, 3.64 GPA *August 2018 - May 2022*

- **Selected Coursework:** Advance Mathematics, Statistics and Probability, Econometrics, Time Series Analysis and Forecasting, Financial Management, Computing for Business and Economic.

Selected Projects

Conversational AI for Event Ticketing Platform (MS-Dissertation)

- Developed a Chatbot using Rasa framework to assist users in searching and purchasing tickets for events like concerts and sports for price comparison.
- Applied Machine Learning Models including Support Vector Machines (SVM) for intent classification and Conditional Random Fields (CRF) for entity extraction, with additional use of LSTM for dialogue management.
- Integrated Large Language Model (GPT-4) and Retrieval Augmented Generation (RAG) to enhance the chatbot's ability to process complex user queries, improving contextual understanding and personalized responses.

Deep Learning-Based Denoising Techniques in Medical Imaging

- Conducted comprehensive research on deep learning-based denoising techniques in medical imaging, focusing on improving the quality of ultrasound, PET, and CT scans.
- Examined innovative deep learning frameworks like U-NET, UNAD, CAPAD, and DEMIST, comparing them to traditional denoising methods in medical imaging.
- Explored the potential of deep learning methods in enhancing diagnostic accuracy and reducing radiation exposure in medical practices.

Potato Disease Classification

- Developed a robust, user-friendly potato-disease classification front-end interface using FastAPI and ReactJS
- Cleaned and transformed datasets containing 3700 images using NumPy and ImageDataGenerator.
- Built a deep learning model with TensorFlow, achieving 96% model accuracy and 99% accuracy on image classification during scanning. Deployed on Google Cloud.

Basketball Players Performance Analysis: A Predictive Model (Team of 3)

- Conducted a comprehensive analysis using XGBoost, Random Forest, SVR, and Linear Regression to predict player minutes based on turnovers, personal fouls, player positions, and additional performance metrics.
- Utilized Mean Squared Error (MSE) and Mean Absolute Error (MAE) to evaluate the performance of the models, concluding that all four selected models performed equally well.
- Performed extensive EDA and feature engineering to identify key factors influencing player performance, contributing to the development of accurate and data-driven predictive models.

Impact of Population growth on GDP per Capita (Bachelor's-Thesis)

- Applied fixed effects and random effects models using panel data (25 developed & 25 underdeveloped countries) to analyze the impact of population growth on GDP per capita, demonstrating strong expertise in causal inference and econometrics.
- Managed and analyzed panel data consisting of 50 countries over 20 years, conducting regression analysis to evaluate economic growth and demographic factors.
- Performed statistical analysis on 10+ variables (e.g., fertility rates, FDI) using econometric techniques, including time-fixed effects models, to assess their impact on GDP per capita.
- Explored demographic and economic interactions, highlighting the relationship between fertility rates and GDP across developing and developed nations, relevant to social science research.

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Experience

Transworld Business Advisors **Dubai, UAE**

Data Scientist *January 2025 - Present*

- Designed predictive financial models and conducted data-driven analyses using Excel and Python to support investment evaluations and M&A advisory processes.
- Analyzed financial datasets and created forecasting tools that enhanced stakeholder decision-making across multiple investment scenarios.

Perrennials Digitals **Lahore, Pakistan**

Data Scientist Intern *March 2023 - August 2023*

- Collaborated with the data science team to analyze large customer datasets using Python and SQL
- Implemented classification models including XGBoost and Random Forest algorithms to predict retention status of the broadband service
- Extracted critical evaluation metrics such as recall and accuracy to assess model performance
- Effectively presented conclusions and insights to non-technical stakeholders

Center for Research in Economics and Business (CREB) **Lahore, Pakistan**

Research Assistant *May 2022 - February 2023*

- Collaborated on research studying the impact of innovation on firm growth and labor productivity.
- Conducted primary data collection from 30 small and medium enterprises (SMEs) and performed data cleaning.
- Utilized STATA for statistical data analysis to support accurate and robust research findings.

Lahore School of Economics **Lahore, Pakistan**

Visiting Teaching Associate *August 2023 - December 2023*

- Assisted four professors in Econometrics, Financial Management, Statistics, and Mathematics.
- Supported in lesson plan preparation, lecture delivery, assignment grading, and provided feedback to over 210 students.

Lahore School of Economics **Lahore, Pakistan**

Teaching Assistant *August 2019 - May 2022*

- Served as a Teaching Assistant throughout the undergraduate degree for subjects including Macroeconomics, Econometrics, Computing for Business and Economics etc.
- Assisted professors in managing class participation, attendance, and grading assignments for a diverse group of students.
- Supported professors in evaluating assignments and providing constructive feedback to students.

Technical Skills

Programming Languages: Python, R (ggplots2), SQL
Healthcare AI Expertise: Medical image analysis (PET/CT denoising), computational pathology
Data Visualization: Power BI (ETL, DAX), Matplotlib, Seaborn
Machine Learning: TensorFlow, PyTorch, Scikit-learn, XGBoost, Random Forest, LSTM, CNNs
Data Engineering: NumPy, Pandas, ImageDataGenerator
Writing: Latex, Overleaf

Leadership & Extracurricular

Vice President **| Lahore School Economics Society, LSES** **August 2021-May 2022**

- Organized three-day International Development Economics Conferences for two consecutive years, fostering global academic collaboration.
- Arranged *Econothon-22*, a two-day event with participation from students of 20 colleges and universities, promoting economic discourse and competition.

Ambassador **| Corporate Social Responsibility, LSE** **August 2019- May 2021**

- Organized five free medical camps at Shareef Medical Complex, providing healthcare services to underprivileged communities.
- Coordinated a one-day visit for children battling cancer to Shaukat Khanum Cancer Hospital, creating memorable experiences.
- Arranged multiple educational activities, including a science fair, at primary public schools in rural villages to inspire young minds.

Volunteer **| SOS Villages International** **Summers 2016, 2017, 2019**

- Taught and mentored orphaned children at SOS Villages, creating a positive learning environment to support their growth and education.
- Planned and coordinated extracurricular activities such as trips, badminton matches, and guitar lessons, promoting holistic development and engagement among students.

Certifications

- Complete Guide to Power BI for Data Analysts (Microsoft Press)
- Data Visualization with R (Harvard)
- Fundamentals of Deep Learning (Nvidia)

- Fundamentals of Data Engineering (LinkedIn)
- Fundamentals of MS Azure (Microsoft Press)

Awards and Honors

- Awarded the **Postgraduate Professional Development Award** by the University of Birmingham (UoB).
- Received the **Best Poster Design and Presentation Award** at the University of Birmingham.
- Earned the **Chancellor's Academic Merit Scholarship** at the University of Birmingham.
- Achieved placement on the **Dean's Honor List** at Lahore School of Economics (LSE).

- Secured a **Fully Funded Merit Scholarship** with a stipend, supported by research and teaching assistant roles at LSE.

Portfolio

- https://ammarally.github.io/

Publications

- Hamza M. & Ammar A., Identification of inhibitors of HOXB9 protein, a potential target of breast cancer, using computational methods (Under-Preparation).