

Ali Ammar

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Education

University of Birmingham

Birmingham, UK

MS in Data Science, 3.75 GPA (Merit)

September 2023 - September 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.

Experience

Transworld Business Advisors

Dubai, UAE

Data Analyst

February 2024 - April 2024

- Analyzed complex financial datasets using advanced Excel tools, including pivot tables, to derive actionable insights for investment evaluations.
- Designed financial models for mergers and acquisitions, demonstrating proficiency in structured data analysis and decision-making processes.

Perennials 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 Cost Accounting, 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.

Selected Projects

Conversational AI for Event Ticketing Platform (Dissertation)

June 2024 - August 2024

- 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 (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.

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
<ul style="list-style-type: none">• Organized three-day International Development Economics Conferences for two consecutive years, fostering global academic collaboration.• Arranged <i>Econothon-22</i>, 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
<ul style="list-style-type: none">• 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
<ul style="list-style-type: none">• 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.