AYESHA SHAHZAD

DATA SCIENTIST

CONTACT

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https://github.com/Ayesha-code-arch

PROFILE

Data Scientist with advanced expertise in deep learning, generative AI, classical machine learning, and statistical data analysis. Recently completed an MSc in Data Science at Kingston University with distinction, including a dissertation developing generative models for histopathological image synthesis in Glioblastoma. Proficient in Python (PyTorch, Keras, Scikit-Learn, Pandas), R, SQL, Tableau, Power BI, and AWS Glue. Experienced in end-to-end project delivery across healthcare, finance, public safety, aviation, and workforce analytics. Combines strong technical skills with proven leadership and analytical problem- solving from diverse professional roles. Passionate about applying cutting-edge AI to solve meaningful, real-world problems.

WORK EXPERIENCE

Oct 2018-Present
CUSTOMER SERVICES ASSISTANT
Tesco, West Drayton, UK

Oct 2017 – Oct 2018
STORE MANAGER
Puccinos Café, Richmond, UK

Feb 2016 – Mar 2017
OFFICE ADMINISTRATOR
Tornado Sports Ltd, Hounslow, UK

Nov 2012 – Jan 2016
ASSISTANT MANAGER
McDonald's, Uxbridge, UK

Feb 2011 – Jul 2012
IT ASSISTANT
Lahore Medical & Dental College, PK

EDUCATION

MScData Science (Distinction) January,2025-January, 2026
Kingston University London UK

- **Dissertation**: Generative AI for bidirectional ISH–H&E image synthesis in Glioblastoma using IVYGAP dataset. Implemented and compared CycleGAN (paired/unpaired), Stable Diffusion v2.1 with a custom discriminator, and ContourDiff in PyTorch. Unpaired CycleGAN achieved the best FID (60–92) and clinical plausibility.

Key Modules

- Machine Learning & Deep Learning
- Databases & Data Management
- Applied Data Programming
- Data Analytics & Visualisation

MA TESOL 2010 – 2012
Lahore College for Women University, PK

PGD in Information Technology 2009-2010
Lahore College for Women University, PK

BA Economics 2004 – 2006
University of Punjab, PK

TECHNICAL SKILLS

Deep Learning & Generative AI:
PyTorch, Keras, CycleGAN, Stable Diffusion, ContourDiff, LSTM, GRU, CNN-LSTM, Hyperparameter Tuning, Evaluation Metrics

Machine Learning:
Scikit-Learn, SVM, Random Forest, Gradient Boosting, KNN, Naive Bayes, MLP, Logistic/Linear Regression

Programming & Analytics:
Python (Pandas, NumPy, Seaborn, Matplotlib, SciPy, MONAI, OpenSlide), R (ggplot2, dplyr, statistical testing), SQL

Data Engineering & Visualisation:
AWS Glue/S3, Oracle APEX, Star-Schema Design, Tableau, Power BI

Tools:
Jupyter, Google Colab, RStudio, Git, CloudFormation

Others:
MS Office, CCNA, Multimedia Development, Adobe

Soft Skills:
Project Management, Public Relations, Teamwork, Time Management, Leadership Effective Communication, Critical Thinking

KEY PROJECTS

GENERATIVEAIFORGLIOBLASTOMA IMAGE SYNTHESIS
Developed CycleGAN, Stable Diffusion and ContourDiff models on the IVYGAP dataset; unpaired CycleGAN achieved the best FID and clinical realism.

CLASSICAL MACHINE LEARNING FOR DIGIT CLASSIFICATION
Achieved 98.6% accuracy and 99.9% ROC AUC using an optimised SVM on the Scikit-learn digits dataset.

DEEP LEARNING FOR REAL-TIME FINANCIAL FORECASTING
Developed LSTM, GRU and CNN-LSTM models, achieving 88.9% R^2 in stock price prediction.

EXPLORATORY DATA ANALYSIS OF MONTGOMERY COUNTY CRIME
Analysed 306k records using Python, applying clustering and visualisation to identify trends and hotspots.

ROYAL ANCHOR SHIPPING DATABASE SYSTEM
Designed a 22-table Oracle APEX database with constraints and queries to support cargo tracking, compliance and route optimisation.

EMPLOYEE PAY AND SATISFACTION ANALYSIS
Applied statistical tests in R to identify pay gaps and key satisfaction drivers.

UK AIRPORT PUNCTUALITY DATA WAREHOUSE
Built a star schema warehouse and Tableau dashboards analysing 79k records of UK flight delays and cancellations.

ETL PIPELINE WITH AWS GLUE
Implemented ETL pipelines and querying on climate data using AWS services, achieving a full lab score.

Regression Analysis for Wine Quality and Hip Fracture Risk
Built multiple and logistic regression models in R to predict wine quality and assess hip fracture risk.

CERTIFICATIONS

Microsoft Power BI Boot Camp (2024) | SQL – Code First Girls (2024) | Python – CITY LIT (2019) | Scrum FundamentalsCertified (2017) | Diploma in Multimedia Development (2013) |

REFERENCE

Referencesareavailable on request