

Muhammad Umar Amanat

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Summary

Senior Solution Architect (Data & AI) with 8+ years of experience delivering GenAI, Machine Learning, and Advanced Analytics projects across telecom, retail, real estate, manufacturing, automotive, retail, finance, hospitality, and energy using AWS, Azure, GCP, Databricks, and other state of the art platform.

Experience

Sr. Solution Architect (Data & AI)

at Systems (MEA), Dubai

Nov 2023 – Present

Leading Etisalat's "Customer Experience" squad and working closely with the "Consumer squad" to innovate business processes using AI including Data Science, Machine Learning, and GenAI.

- Maintained customer segmentation projects for a whole base consisting of 10M+ users.
- Fine-tuned Llama-3-8B using AWS SageMaker on 200K+ records using the QLoRA technique on a custom dataset to proactively explain bills in case of a bill spike.
- Optimized more than 10 Data pipelines for the Data & Machine Learning team built on IBM DataStage and Azure Databricks.

Sr. Data & AI Engineer at "Royal Cyber", Pakistan

Mar 2022 - Oct 2023

Led a team of data scientists and data engineers and provided consultancy on the Databricks platform to more than 6 clients of Royal Cyber.

- Automated 20+ incident workflows across 40+ plants using OpenAI, reducing average ticket handling time from 2 hours to 10 minutes.
- Streamlined an Azure-Databricks solution to migrate streaming data pipelines from Confluent Kafka to Azure EventHub, achieving production and consumption rates of 0.5 MB/s and 1 MB/s, respectively.
- Successfully completed a Unified Analytics project on Databricks, enabling Machine Learning and Analytics teams to optimize production assembly lines across 40 plants in the US.
- Created an optimized data pipeline built in Databricks. These pipelines were optimized using Delta Live tables and time was reduced from 75 minutes to 25 minutes.

Sr. Data Scientist at "The Entertainer FZ LLC", Dubai

Sep 2020 – Feb 2022

Contributed directly to the business of Entertainer by leading a team of 2 junior AI and Data Engineers.

- Created a recommendation engine for "The Entertainer" with 20 million user interactions for 13 regions, this increased the revenue of the business by approximately 5%.
- Developed a Delta Lakehouse that handles huge amounts of data from more than 5 data sources. This Delta Lakehouse reduces the 30% monthly data management cost.
- Enhanced marketing productivity by 20% through Kepler.gl-powered geospatial dashboard for 13k+ merchants and 200k+ customers.
- Incorporated Hybrid Recommendation Engine in the Entertainer's App. This increases user app time on average from 2 minutes to 5 minutes.
- Organized Entertainer's Datawarehouse pipeline on the Azure platform using Data Factory which incrementally updates data for 13 different regions in a nightly job.

Sr. Machine Learning Engineer at "Systems Ltd", Pakistan

Jun 2018 – Sep 2020

My role as Sr. Machine Learning Engineer was to provide end-to-end Machine Learning and Deep Learning services for the Systems Limited business.

- Successfully led a sales forecasting project on the Microsoft Azure cloud platform and achieved an accuracy of more than 85% for around 3000 stores.
- Contributed to Data cleansing, and pre-processing data pipeline which cooks the data of 3500 stores for the Sales Forecasting Machine Learning engine

- Managed pre and post-Machine Learning deployment data pipeline of a churn prediction model on Azure. The AI model used in this project helps the business in retaining more than 50% of its customers.
- Deployed Mozilla Deep Speech algorithm on Google Cloud Platform to transcribe medical data with an accuracy of 90%
- Created a deep learning-based video analytics application for a shopping mall using QT. This model generates more than 8 different kinds of video analytics.

Java Developer at “Royal Cyber”, Pakistan

Aug 2017 – Sep 2017

I was responsible for developing the WebSphere application and handling clients’ change requests for Python web applications.

Education

University of Engineering and Technology Lahore

Sep 2020 – Sep 2023

Master’s in computer sciences (Specialization in AI)

National University of Computer and Emerging Sciences

Aug 2013 – July 2017

Bachelor’s in computer sciences

Technical Skill

- Machine Learning Frameworks: Scikit-learn, TensorFlow, PyTorch, Hugging Face, SparkMLlib, OpenCV, AWS SageMaker, Azure Machine Learning, MLFlow, Dataiku.
- Statistical Techniques: Data modeling, hypothesis testing, anomaly detection, predictive modeling, forecasting, segmentation, statistical methods, optimization techniques, exploratory data analysis (EDA), statistical analysis.
- Natural Language Processing: LLMs, LangChain, OpenAI, text classification, clustering, feature engineering, sentiment analysis.
- Programming Languages: Python, R, SQL, Java, JavaScript, C++.
- Data Manipulation: Pandas, NumPy, PySpark, PyDash, feature engineering, data cleaning, preprocessing, transformation.
- Big Data & Scalable Pipelines: Hadoop, Spark, Spark Streaming, Kafka, scalable data pipelines, massive parallel processing (MPP).
- Data Platforms: Databricks, Azure Synapse, AWS Redshift, AWS Glue, Databricks Delta Live Tables, DataFactory, dbt, Snowflake.
- Databases: Elasticsearch, MS SQL, MongoDB, MySQL, PostgreSQL, NoSQL.
- Data Visualization & Reporting: Matplotlib, Kepler.GI, Streamlit, PyQt, Databricks SQL, Power BI, Tableau, dashboards, data storytelling.
- Cloud Platforms: AWS, Azure, GCP.
- MLOps & Model Deployment: Model deployment, monitoring, refinement, Azure DevOps, MLFlow, CI/CD pipelines, production model integration, versioning.
- Version Control & Collaboration: Git, Azure DevOps, Microsoft DevOps, collaborative development workflows.
- Technical Documentation & Support: Documenting data processes, models, and methodologies for reproducibility and knowledge sharing.

Soft Skill

In addition to my technical expertise, I have developed **Research & Implementation, Leadership, Analytical tools, Collaboration, Innovation, Storytelling, Problem-solving, Documentation, Cross-Functional Collaboration, Market & Business Analysis, and Business insights** skills throughout my professional experience.

Achievements and Certifications

- Databricks Certified Data Engineer Professional.
- Selected 2 times for “AWS Community Builder” program.
- Databricks Certified Associate Developer for Apache Spark 3.0
- Databricks Certified Machine Learning Associate
- Databricks Certified Data Engineer Associate
- Databricks Certified Data Analyst Associate
- Earned more than 25 Coursera certifications in “Data & AI”.