

Faiyaz Ahmad

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EDUCATION

Masters in Data Science

Grade: 3.9/4.0

Courses: Artificial Intelligence, Natural Language Processing, Deep Learning, Multivariate Statistics, Regression Analysis, Database Systems, Cloud Computing (GCP), Big Data, and Data Security and Privacy

University of Michigan-Dearborn

Aug 2022 - Apr 2024

Bachelors in Mechanical Engineering

Grade: 7.8/10.0

Motilal Nehru National Institute of Technology, Allahabad

Jul 2014 - May 2018

SKILLS

Technical Skills

Generative AI, LLM, RAG, NLP, Computer Vision, Tableau, Spark, Docker, Project Management

Programming

Python, R, Matlab, SQL, Linux, Shell Scripting, JavaScript, Flask, Django, API Development

ML/DL Frameworks:

HuggingFace, Scikit-Learn, TensorFlow, Pytorch, OpenCV, NLTK, Pandas, Numpy

Machine Learning

SVM, Regression, Random Forest, Naïve Bayes, XGBoost, MLE, HMM

Deep Learning

CNN, YOLO, RNN, GRU, LSTM, Attention Models, Transformers

Statistical Analysis

Chi-sq test, t-test, z-test, hypothesis testing, ANOVA

Cloud Computing

GCP (DataProc, BigQuery, Vertex AI), AWS (Kinesis, Redshift, Athena, SageMaker)

PROFESSIONAL EXPERIENCE

Machine Learning Engineer

ScriptChain Health

Jun 2024 - Present

Boston, MA

- Architected a data preprocessing pipeline leveraging S3, and EC2, utilized SageMaker for ML models training, and deployment.
- Fine-tuned the Llama-2 Model by using Quantized Low Rank Adaption (QLoRA) with 8 bit quantization for clinical note generation using the patient health records. Reduced the GPU VRAM requirement in AWS SageMaker by 50%.
- Built the hybrid model using Graph Attention Module, Time-LLM, and Llama to predict the 30-days hospital readmission.
- Reduced data preprocessing time from 500 hours to 10 minutes by implementing efficient table-joining operations on 500 million rows using AWS S3, Glue, Athena, and optimized SQL queries.
- Led cost-saving initiative for AI team's AWS resources, optimized compute and storage allocation and saving \$6,000 annually.

Research Assistant (Data Science)

Sustainability Center-University of Michigan-Dearborn

Jan 2024 - Apr 2024

Dearborn, MI

- Developed Django based full-stack web application for advance data analysis and machine learning model development using JavaScript, HTML, Python script, S3, API Gateway, Lambda, and SageMaker. Built python Rest API for CRUD operations.
- Built the video streaming data analysis system for raspberry pi mini autonomous vehicle for object detection using Kinesis with low latency, debug and installed C++ Kinesis Video Streaming SDK producer in raspberry pi module.
- Implemented ResNet50, MobileNetV2, and U-Net architecture with modified dense layer for facial landmark detection on thermal images with custom loss function i.e wing loss to train the model. Achieved 0.04 Normalized Mean Error.

Data Science Analyst

iLabs- University of Michigan

Aug 2023 - Nov 2023

Dearborn, MI

- Conducted data collection, preprocessing, and modeling, followed by exploratory data analysis to pinpoint critical factors for ice hockey team's success. Built Interactive Tableau Dashboard to track the Players and teams performances.
- Designed rating systems for both players and goalies to simulate and evaluate a team's defensive and offensive strength.

Data Scientist

Hero Motocorp Limited (Automotive Manufacturing)

July 2018 - Mar 2022

Gujarat, India

- Led the implementation of 10+ computer vision systems for quality initiatives i.e component identification, anomaly detection, and missing parts detection in production line, and collaborated with CFT teams, achieved \$100,000 in annual savings.
- Conducted A/B testing to optimize heat treatment process parameters for crankshaft manufacturing, achieved 5% improvement in quality rate, and performed statistical analysis using R to monitor process and quality parameter variations.
- Designed a CNN-based autoencoder with PyTorch for automated defect detection on painted components. Optimized 10 manpower requirement, reduce quality stations from 10 to 3 and ensured 100% quality inspection coverage.
- Implemented anomaly detection in streaming sensors data from different machines, utilizing the PCA, Isolation Forest and K-Means Clustering technique, increase the machine availability by 100+ hours/month, and productivity improvement by 10%.
- Trained predictive maintenance model for predicting the Residual Life of Machine based on different sensor data. Trained the Linear Regression, Random Forest, and CNN based model. Achieved 9.8 RMSE generalization error using CNN model.
- 90% reporting time reduction in regular and ad-hoc reporting by implementing ETL systems with AWS Glue, S3, Lambda, and Athena, extracting data from various sources including ERP systems (SAP) and SQL databases.

CERTIFICATIONS

AWS Certified Solutions Architect-Associate (SAA-C03) [\[Link\]](#)

Machine Learning by Coursera (Andrew Ng) [\[Link\]](#)

Deep Learning Specialization by Coursera (Andrew Ng) [\[Link\]](#)