Anirudh Malik

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SUMMARY

Aspiring Scientific Software Engineer, Data Scientist, and MLOps Practitioner with expertise in machine learning pipelines, deploying models in production, and advanced data analytics. Skilled in Python, R, SQL, and data engineering tools, with experience in cloud platforms, MLOps frameworks, and big data technologies.

SKILLS

- **Programming Languages:** Python, R, SQL, C++
- **Data Analysis and Visualization:** Pandas, NumPy, Matplotlib, Seaborn, Power BI, Tableau
- **Machine Learning Frameworks:** TensorFlow, PyTorch, Scikit-learn
- **MLOps Tools:** MLFlow, DVC, Airflow, Docker, Kubernetes
- **Model Deployment:** AWS SageMaker, Azure Web Apps, Flask, Streamlit
- **Database Management:** MySQL, PostgreSQL, MongoDB
- **Cloud Platforms:** AWS (S3, EC2, SageMaker), Azure
- **Other Skills:** Data Cleaning & Wrangling, Exploratory Data Analysis, CI/CD Pipelines

PROJECTS

- **Retail Sales Forecasting Pipeline**
  Developed an end-to-end machine learning pipeline for forecasting retail sales. Utilized Airflow, MLFlow, and Flask for orchestration and deployment.
- **Fraud Detection System with MLOps**
  Designed a scalable ML system for detecting fraudulent transactions. Used Apache Spark for data processing and AWS Lambda for deployment.
- **YouTube Comment Sentiment Analysis**
  Built a web application using Hugging Face transformers for sentiment analysis of YouTube comments. Provided actionable insights for content creators.
- **Customer Segmentation for Marketing**
  Implemented unsupervised learning techniques to classify customer segments, aiding personalized marketing strategies.
- **Energy Consumption Prediction**
  Developed time-series models to forecast energy usage patterns, enabling better resource allocation for utility companies.
- **E-commerce Product Recommendation System**
  Created a recommendation engine using collaborative filtering and content-based approaches to enhance user experience.
- **Image Classification with CNNs**
  Designed and trained convolutional neural networks to classify images from large datasets, leveraging TensorFlow and PyTorch.
- **Predictive Maintenance for Manufacturing**
  Developed machine learning models to predict equipment failures and optimize maintenance schedules, reducing downtime.

WORK EXPERIENCE

University of Sheffield
Research Experience: Identification of Electrons *(2023-2024)*

Utilised PICNN to enhance electron identification accuracy using data from ATLAS, CERN.
Processed and analysed detector datasets with Python and C++ on ROOT.

EDUCATION

University of Sheffield
MSc Particle Physics *(2023 - 2024)*
Coursework: Advanced Machine Learning, Advanced Particle Physics, Big Data Analytics, Cosmology, Dark Matter.

University of Delhi
Bachelor of Science — Physics, Mathematics, and Computer Science *(2020-2023)*
Graduated with distinction; focused on computer science, statistics, problem solving, and data analysis.

CERTIFICATIONS

- Machine Learning, MLOps Bootcamp, Deep Learning Specialization, NLP and Transformers (Udemy, 2024)
- Python for Data Analytics, Data Visualization Techniques, Big Data Analytics (Learntube.ai, 2024)