AKASH MATHUR

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ABOUT ME

An MBA Finance and engineering graduate with 8+ years of experience in creating AI solutions that generate revenue, enhance customer satisfaction, optimize supply chain, and provide valuable insights that drive innovation & business growth across diverse industries. Proficient in designing and deploying end-to-end ML architecture using Cloud & MLOps.

PROFESSIONAL EXPERIENCE

S&P GLOBAL – MOBILITY, Gurugram, India

Senior Data Scientist – Automotive Supply Chain Technology & Aftermarket   *Jun 2021 – Present*

- Launched an ML product that uncovers market trends and forecasts Vehicles Scrappage helping businesses to identify **recycling** trends. It was integrated into several downstream products, contributing to **sustainable** value creation and **revenue** growth.
- Engineered a **CI/CD** integrated **serverless** workflow leveraging **AWS, Docker** and **Terraform** to streamline model **deployment**. Defined and **monitored** KPIs and metrics to assess model performance ensuring ongoing accuracy and reliability.
- Reduced daily news processing time by **80%** by building and deploying a **CI/CD** integrated serverless **AWS** workflow. It **recommends** top-N news articles based on **similarity search** (Faiss) and abstractive news **summarization** using **FLAN-T5** model.
- Improved customer satisfaction and product quality by building and deploying a serverless **AWS** workflow that identifies prevalent issues using **topic modelling** (BERTopic) and **Sentiment Analysis** using **BERT** to analyse customer reviews.
- Accelerated performance by **10X** through optimization of a long-running query using Spark, processing gigabytes of data on **Azure Databricks**, and deriving actionable insights for internal stakeholders using **Power BI**.

BANK OF AMERICA – Gurugram, India

Assistant Manager - Quantitative Modelling   *Nov 2018 – Jun 2021*

- Improved bank's risk and capital management by forecasting Equities Trading Account Profit revenue for 9 quarters using **Linear Regression** under several economic scenarios as a part of regulatory requirement using **Azure Machine Learning.**
- Reduced monthly processing time by **90%** by automating **ETL** pipelines for large-scale Non-Interest Income data and leveraging the time-series model **ARIMA** for revenue forecasting using **Databricks**.
- Demonstrated proficiency in **Information Extraction** through the integration of diverse data sources, including text, PDFs, APIs, and scanned images with OCR, to construct robust data pipelines for multiple downstream tasks.

CREDIT SUISSE – Pune, India

Client Finance Analytics - Global Markets Technology   *May 2015 – Nov 2018*

- Improved risk management through the identification of high-risk **hedge fund** investors by performing exploratory data analysis (EDA) and constructing a Machine Learning model with an AUC-ROC score of 0.82 using **Random Forest.**
- Optimized product offerings by **40%** through the implementation of **Dimensionality** Reduction and **Clustering** Techniques, including K-Means and DBSCAN, to identify distinct client groups, thereby gaining valuable insights into their behaviour.

LLM POWERED APPLICATIONS   Repository

- Developed **versatile** GenAI applications powered by Large Language Model, including conversational AI chatbot, semantic search, text summarization etc. using LangChain and LlamaIndex, coupled with **fine tuning** and **deploying** open source models.
- Implemented fine tuning strategies in **RAG** applications, optimizing both **ingestion** (chunking, metadata, multi-indexing) and **inferencing** (query transformations, advanced retrieval strategies, re-ranking) stages for enhanced performance.

TECHNICAL SKILLS AND TOOLS

Languages and Tools: Python, SQL, Spark, Azure Databricks, PowerShell, MySQL
Machine Learning: AWS (SageMaker, Lambda, Batch, Step Functions, ECS, ECR, API Gateway, S3), Azure (Machine Learning, Data Factory, Databricks), LangChain, LlamaIndex, Faiss, MLflow, Scikit-learn, TensorFlow, PyTorch, Hugging Face, NLTK, spaCy, OpenCV
DevOps: Docker, Terraform, CI/CD, Git, GitLab, GitLab runner
Data Visualization: Tableau (Certified Desktop Specialist), Power BI
Community & Interests: Stock Market Analysis, Macroeconomics, Swimming, Yoga, Meditation, Cooking

EDUCATION

K J Somaiya Institute of Management, Mumbai, India   *2013-2015*
Post Graduate Diploma in Management - Financial Services

University College of Engineering, Rajasthan Technical University, India   *2008-2012*
Bachelor of Technology - Electronics & Communication