Pavan Bairu

☎ +918886261654   ✉ pavan.bairu1@gmail.com   📍 Warangal, India-506003

Professional Summary

Software Developer with 4.6 years of experience in SQL-based backend development for banking and insurance domains. Skilled in writing and optimizing SQL queries, and building APIs using Python and FastAPI. Also upskilled and hands-on on AI/ML model development and deployment.

Technical Skills

- **Programming:** Python
- **Databases**: SQL, DB2
- **Cloud**: AWS (S3, EC2, ECS, ECR)
- **MLOps & Deployment**: Docker, CI/CD Pipelines, Flask, FastAPI, GitHub Actions
- **Data Visualization**: Matplotlib, Seaborn

Work Experience

System Engineer | TCS | Feb 2023 – Present

Industry: Insurance, Pensions & Investment | ACD Project (LBG Client)

- **Tech Stack: Python, SQL(MySQL), FastAPI, SQLAlchemy.**
- Developed a backend system for automating mutual fund switch requests for retail and institutional clients.
- Designed relational database schema for policies, funds, prices, and fund assets using MySQL.
- Wrote SQL queries for calculating units, adjusting fund balances, and updating policy fund holdings.
- Exposed business logic through FastAPI endpoints and ensured secure database access with SQLAlchemy.
- Improved operational efficiency by reducing manual effort and ensuring accurate fund transfers.

Associate Consultant | Capgemini | Jan 2021 – Jan 2023

Industry: Banking (Cards) | Customer Data Store Project (CDS) (Discover Client)

- **Tech Stack: SQL (DB2)**
- Developed and optimized SQL queries to extract, update, and validate customer and transaction data in DB2.
- Improved existing query performance by refining joins and conditions based on business logic.
- Collaborated with teams to ensure consistent and accurate data across banking systems.
- Identified and resolved SQL-related issues in backend processes, enhancing data accuracy.
- Performed manual data checks and validations to support business reporting and processing.

Personal Projects

Credit Card Transactions Fraud Detection

- **Problem Statement**: Detecting fraud in highly imbalanced credit card transactions (99% legit, 1% fraud) while minimizing false negatives.
- Tech Stack: Python, FastAPI, Scikit-learn, GitHub Actions, Docker, AWS EC2, AWS S3.
- Addressed imbalanced data (99% non-fraud, 1% fraud) using upsampling and handled missing values, outliers, and data drift.
- Extracted key features for improved model interpretability. and trained classification models, achieving 90% accuracy in fraud detection.
- Deployed with FastAPI, Docker on AWS EC2, and automated CI/CD using GitHub Actions.

SQL-LLM-Chatbot

- **Tech Stack**: Python, Streamlit, Euriai LLM, SQLAlchemy, Docker, NeonDB, GitHub Actions, AWS ECS/ECR
- **Problem Statement**: Non-technical users struggle to write SQL queries to retrieve database insights.
- Built an LLM-powered assistant that converts natural language to SQL and executes it live.
- Developed a Streamlit app that generates SQL using Euriai LLM and runs it on Neon PostgreSQL.
- Dynamically injected database schema into LLM prompt using SQLAlchemy.
- Containerized app with Docker and managed environment secrets securely.
- Automated CI/CD deployment to AWS ECS using GitHub Actions and Amazon ECR.

Education

B.Tech in Electronics & Communications Engineering
Guru Nanak Institutions Technical campus Hyderabad – 2019.

Certifications

- **AWS Cloud Practitioner CLF – C02**

Achievements & Awards

- **RISING STAR** certificate in recognition of good work done from Capgemini.
- Certificate of Recognition for outstanding contribution to the **TCS-LBG Journey**