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SUMMARY

I am an AI/ML Engineer with 2+ years of experience in developing data-driven solutions to improve business outcomes. Proficient in leveraging advanced AI technologies, including Generative AI and Retrieval-Augmented Generation (RAG) models, to develop scalable and high-performance solutions. Skilled in implementing machine learning algorithms, particularly in classification and regression, to drive automation and improve decision-making processes. Committed to creating robust, efficient systems while staying updated on emerging technologies to deliver innovative, business-aligned solutions.

PROFESSIONAL EXPERIENCE

Virtusa Consulting Services Private Limited
Generative AI Developer- Engineer

Hyderabad, IN
May 2022 – Present

- Designed and implemented multiple Generative AI-based solutions across banking, finance, and legacy system modernization domains using GPT-4, Gemini Pro, and Vertex AI.
- Built an AI-powered voice banking chatbot integrating LLMs with Dialogflow CX, Speech-to-Text, and RAG, improving customer support accuracy by 40% and reducing latency by 50%.
- Developed a credit risk assessment model with Explainable AI (XAI) and AutoML, ensuring Basel III compliance and improving automated loan approvals by 30%.
- Created an AI-driven SOAP to REST API converter using OpenAI GPT-4-turbo, LangChain, and Apache NiFi, reducing legacy modernization efforts by 70%.
- Built a regulatory report generator for Basel III and IFRS 9 using Apache Spark, Vertex AI, and Terraform, cutting manual reporting time by 75%.
- Applied RAGAS and custom evaluation frameworks to ensure high-fidelity outputs from retrieval-augmented systems.
- Leveraged LangChain, LlamaIndex, and BigQuery for seamless integration of LLMs with structured and unstructured data.
- Designed serverless AI architectures using FastAPI, Cloud Functions, and Terraform for scalable, cloud-native deployments on Azure and GCP.
- Collaborated cross-functionally with data scientists, product owners, and MLOps teams to translate business needs into AI solutions.
- Spearheaded internal knowledge-sharing sessions on prompt engineering, GenAI pipelines, and enterprise LLM adoption best practices.

PROJECTS

1. Query Genie – Multi-Agent AI for Enterprise Query Handling & Visualization

- **Technologies:** Python, LangChain, SQLGlot, GPT-4, GPT-4o, Streamlit, Cosmos DB, Azure, Prompt Engineering, LLM Agents, Multi-language Support.
- Built a multi-agent AI system for enterprise-level query handling, auto-visualization, and schema management.
- Translates SQL across multiple dialects (MySQL, PostgreSQL, SQLite, T-SQL, NoSQL) using SQLGlot and LLMs.
- Integrated Cosmos DB for hybrid relational and NoSQL data access.
- Implemented automatic schema generation and ER diagram creation based on database structure.
- Automatically generates graphs and charts (bar, line, pie, etc.) based on query output for business-friendly visualization.
- Designed an interactive chatbot for SQL query explanation, debugging, and suggestions.
- Enabled multi-language support for non-English query inputs and interactions.
- Deployed with Streamlit on Azure, ensuring scalability and a user-friendly UI.

2. AI-Powered Voice Banking Chatbot with LLMs

- **Technologies:** Google Cloud Vertex AI, Gemini, Dialogflow CX, Speech-to-Text, Matching Engine, OpenAI, Python, FastAPI, Firestore, OAuth, RAG
- Developed a multilingual, voice-enabled AI chatbot using Google Cloud's Vertex AI Gemini, OpenAI, and Dialogflow CX, enhancing user engagement and improving chatbot response accuracy by 40%.
- Implemented Retrieval-Augmented Generation (RAG) to access real-time banking information for personalized user responses.
- Integrated Google Cloud Pub/Sub for real-time, event-driven banking transaction workflows.
- Achieved 95% transcription accuracy using Speech-to-Text and Text-to-Speech APIs and optimized latency by 50% using Matching Engine.
- Built and deployed an AI-based fraud detection system using Autoencoders and Isolation Forests, reducing false fraud alerts by 30%.
- Ensured secure authentication using OAuth2.0, and deployed the entire architecture using FastAPI and Firestore.

3. AI-Powered Credit Risk Assessment Model

- **Technologies:** Python, OpenAI GPT-4, Vertex AI, LangChain, Pandas, BigQuery, TensorFlow, FastAPI, Apache Airflow
- Built a Generative AI-based model for automated credit risk profiling and loan approval.
- Integrated BigQuery for handling large-scale financial datasets.
- Automated missing data handling using GPT, reducing rejection rate by 30%.
- Ensured decision explainability with XAI techniques aligned with Basel III guidelines.
- Deployed Apache Airflow pipelines for real-time and scheduled scoring.

4. AI-Powered SOAP to REST API Converter

- **Technologies:** Python, Streamlit, OpenAI GPT-4-turbo, LangChain, FastAPI, SOAPlib, Swagger UI, GCP Cloud Functions, Terraform, Apache NiFi.
- Built an AI-driven solution to convert legacy SOAP APIs into RESTful APIs, reducing modernization efforts by 70%.
- Used GPT-4-turbo to parse WSDL and auto-generate Swagger/OpenAPI specs.
- Automated integration with Apache NiFi for data transformation and flow handling.
- Deployed infrastructure with Terraform and GCP Cloud Functions for scalability.

EDUCATION

Lovely Professional University, PUNJAB-(May 2022)

- Bachelor of Technology in Computer Science and Engineering

SKILLS

- **Programming Languages:** Python (Pandas, NumPy, Scikit-learn), SQL, Bash
- **Generative AI & LLMs:** RAG, LangChain, Agents, LlamaIndex, Hugging Face, Ragas, GPT-4o, GPT-4, GPT-3.5 Turbo, Gemini 1.5 Pro, Mistral
- **Prompt Engineering:** Zero-Shot, One-Shot, Few-Shot Learning, Chain of Thought, ReAct Prompting
- **Machine Learning & Deep Learning:** Classification, Regression, Clustering, Text Classification, Named Entity Recognition, Transformers, RNNs, CNNs, ANNs, BERT, Autoencoders, Isolation Forests
- **Cloud Platforms & Services:**
 - AWS: EC2, S3, RDS, Lambda, EFS, Cognito, Amplify
 - Azure: Azure OpenAI, Azure Pipelines
 - GCP: Vertex AI, Dialogflow CX, BigQuery, Speech-to-Text, Text-to-Speech, Matching Engine
- **DevOps & MLOps Tools:** Docker, Kubernetes, Helm, Jenkins, GitLab CI, Terraform, Ansible, Prometheus, Grafana, ELK Stack, SonarQube, Aqua Security
- **Vector Databases:** Pinecone, Chroma DB, FAISS (CPU)
- **Frameworks & Tools:** FastAPI, Flask, TensorFlow, React, DBT
- **Infrastructure & Automation:** CI/CD Pipeline Design, Microservices Deployment, Cloud Automation, Infrastructure as Code (IaC), Monitoring & Logging, Cloud Security & Compliance

CERTIFICATIONS & ACHIEVEMENTS

- **Certifications:**
 - Google Cloud Professional Cloud Architect – Google Cloud, Issued Jan 2025
 - AWS DevOps Certification, Cloud Academy, Issued Jan 2025
 - Google Associate Cloud Engineer – Google cloud, Issued Aug 2022