Sumit Anand

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SUMMARY

Results-driven Gen AI/ML engineer with 1 year 4 months of experience creating impactful solutions. Experience in Retrieval-Augmented Generation (RAG), LlamaIndex, and key tools like Bedrock and Langchain. Passionate about contributing to the advancement of generative AI and seeking challenging roles.

TECHNICAL SKILLS

Programming Languages: Python,HTML ,Java , Unix

Tools and Frameworks: Github Copilot ,Flask, FastAPI, Streamlit, Langchain , Playwright, LangGrpah ,LlamaIndex React , Tailwind ,Postman , Aws, AWS Bedrock ,Git ,SpringBoot , Maven

AI/MLand Databases: Gen AI, LLM, RAG , Bedrock Services,Sql , Serverless Databases

EXPERIENCE

Gen AI/ML Developer (PA)   Dec 2023 – Present
Cognizant Technology Solutions   *Kolkata*

Chatbot With Streamlit Ui and Bedrock

- Developed a chatbot application using streamlit for the user interface.
- Integrated the chatbot with Berock , utilizing the Claude Anthropic model to handle natural conversations
- Enabled smooth interaction and real-time communications, providing a seamless user experience with advanced conversational AI

Poc: Pnl Assistant with Streamlit Ui and SQL Integration

- Developed a PNL Assistant using Streamlit UI and SQL Server Management Studio (SSMS) for database management, where large datasets were loaded from Excel.
- Implemented natural language to SQL query conversion, enabling users to retrieve data like NBL count and resource numbers at different scales for EDL and EDP.
- Used LangChain in the chaining process, evolving the solution from basic generic conversion to a sophisticated Text2SQL system.
- Integrated multiple modes, including freeform and non-freeform query options, to provide more flexibility in data retrieval.

Poc: Document Search with Aws Bedrock

- Built a document search application that enabled document upload , chunking, and conversational interaction via Bedrock.
- Enhanced the solution to include semi-structured data search capabilities, such as querying Excel files etc.
- Integrated Langchain Conversation memory to maintain context across user interactions , improving the conversational flow.

PoC: DB Migration Tool and PDF-to-XML Converter

- Built a DB migration tool using two proc files to establish relationships and generate PDFs containing table names from another proc.
- Developed a PDF-to-XML converter with a document chat feature, fine-tuning system prompts for accurate XML conversions, including tables and financial/insurance data.

PoC: e-POP (Engineering Platform of Pilot)

- Designed a platform to upload various file types (.sas, .txt, .py, .java, .jpg, etc.) and generate detailed PDF documentation, including content details, parameter significance, code walkthroughs, and runtime-generated mermaid diagrams.
- Automated PySpark script generation for source files and implemented COBOL-to-Snowflake and PCF manifest-to-Kubernetes EKS deployment configurations.
- Developed additional features like a dashboard with file statistics, charts, and processing times, document chat, and UW Assist for Excel uploads and folder-based PDF searches (procedural and LLM-based).
- Built a Sybase module to extract table names from stored procedures, match them with Excel data, and generate PDF reports. Developed using Flask (backend), HTML, Tailwind CSS (frontend), and deployed the entire solution to an EC2 server.

PoC: AI-Powered UI Testing Tool)

- Built a UI testing tool using Playwright, integrated with LLMs to interpret prompts and determine actions and intentions for automated testing.
- Captured screenshots during tests, overlaying pass/fail indicators (green for passed, red for failed) and generated detailed reports.
- Stored test data in PostgreSQL, supporting both procedural and single-prompt LLM-based workflows with Project Id and Release ID.

PoC: PDF Data Extraction with AWS Textract)

- Leveraged AWS Textract to extract specific selection fields from batches of PDF files and compile the data into an Excel file, appending PDF screenshots alongside each selection as proof.
- Deployed the solution using AWS Lambda to expose an API, enabling seamless integration for the telemetry team.

PoC: Standalone Web Application)

- Designed a GUI-based application using Tkinter to process Excel files by extracting specific columns row-wise.
- Implemented functionality to search through folders containing insurance and financial PDFs, capturing screenshots of matched content for efficient data retrieval.

PoC: AIG Genie (VS Code Extension)

- Created a VS Code extension to monitor GitHub Copilot usage by tracking daily prompt responses.
- Enabled auditing by saving responses in organized text files, providing insights into prompt utilization and developer workflows.

PoC: GOALD Extraction

- Analyzed unused database tables by chunking large proc files (Iberia-proc SQL) to extract stored procedures.
- Mapped relationships using object and execution logs, applying LLM chaining to simplify and accelerate analysis.Streamlined database optimization by identifying inactive tables and their associated procedures.

PoC: Pseudo Agents

- Developed an agentic framework as an alternative to LangChain, incorporating multiple agents for task-specific functionalities:
- Base Agent: Handled file reading, caching, and file generation. Sybase Proc Agent: Analyzed Sybase SQL procedures, identifying used tables, columns, and called procedures. MoreInfo Agent: Provided additional insights for specific queries. Scheduler Agent: Automated task scheduling for various workflows. VB6 Agent: Facilitated interaction with legacy VB6 systems for data extraction and analysis. Designed for modularity and scalability, addressing a variety of enterprise-level automation tasks.

Oct 2023 – Dec 2023

Cognizant Technology Solutions   *Coimbatore*

- Trained in Full Stack Engineering , utilizing Java , Spring Boot , Maven and JPA for backend dev along with Html , Css ,Jsp for frontend git , unix and Jira application as well creating dynamic and efficient web application.
- Developed a dummy wallet web application with admin features to resolve customer-raised issues and manage services like adding money , sending money ,etc.
- Built the user interface using jsp and implemented backend functionality with Java Spring Boot.
- Integrated Oracle XE 11g database using JPA Repository for efficient data handling.

EDUCATION

Rcc Institute of Information Technology   Kolkata
Bachelor of Technology in ECE   *June 2019 – June 2023*

Guru Nanak Hr. Sec. School   Ranchi
PCM   *1st divison*

Rosemary Land School   Bihar Sharif
Science   *1st divison*

CERTIFICATIONS

- Microsoft Certified: Azure Fundamentals
- AWS Certified : AI Practitioner(ongoing)