Neha Vittal Annam

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SUMMARY

Proficient IT professional with 2 years of experience specializing in database management, AI-driven solutions, and web scraping. Successfully designed and developed a Database Chatbot with advanced metadata extraction, indexing capabilities, and adaptability to schema changes. Demonstrated expertise in document extraction and processing across diverse file formats using cutting-edge AI techniques to achieve 90%+ accuracy. Skilled in leveraging technologies like Elasticsearch, MySQL, and NLP to streamline workflows and enhance data retrieval. Proven track record of managing end-to-end projects, delivering scalable solutions, and driving efficiency in dynamic environments.

PROFESSIONAL EXPERIENCE

Data Engineer | DATA STURDY CONSULTANCY PVT. LTD.
Mar 2024 – Present

Project: Enhancing and Integrating Capabilities in Database Chatbot

- Developed SQL scripts to retrieve and structure database metadata, improving retrieval speed by **40%**.
- Integrated **Azure Speech Services** to enable multilingual capabilities, enhancing user interaction by **30%**.
- Implemented schema change adaptation, ensuring **95%** data accuracy across 10+ databases.

Project: Web Scraping and Data Indexing

- Scraped and indexed content from over 250 URLs, ensuring **95%** search accuracy through **semantic vectorization**.
- Automated adaptation to website updates, reducing maintenance time by **20%**.

Project: Document Extraction and Processing

- Processed 100+ complex documents (PDF, Word, PPT) with a **90%**+ accuracy rate using **LlamaParse** and **OpenAI**.
- Improved **chatbot response** relevance for document-based queries by **25%**.

Project: AutoGen SWARM Framework System with Multi-Agent Workflow

- Built a travel agent system using **multiple AI agents** to handle tasks like flight and ride refunds.
- Implemented a multi-agent workflow using Azure OpenAI, ensuring task completion via agent **handoffs** technique.

Project: Implementation of Multi-Agent Communication System Using AG2 Autogen Framework

- Designed and implemented a **multi-agent communication system** using **AG2 Autogen's Group Chat technique**, with a **manager agent** leveraging **LLM-powered auto-transfer** to route queries to **SQL** and **generic agents** while maintaining **conversation context**.
- Developed **Document Query Agents** using the **RAG approach** to efficiently **handle user queries** for **single and multiple documents**, ensuring scalable document retrieval functionality.
- Built and registered **tools for agent communication**, ensuring **seamless multi-agent collaboration** and **stickiness** for follow-up queries.

Associate Data Engineer | DATA STURDY CONSULTANCY PVT. LTD.
Feb 2023 – Feb 2024

Project: IIS Log Analytics Solution

- Automated extraction and analysis of 10,000+ IIS log entries weekly, achieving a **50%** reduction in manual effort.
- Centralized storage for **500GB+** logs, streamlining reporting and enhancing operational efficiency.

Project: MySQL Migration to Flexible Server

- Led a seamless migration of a **1.2TB** MySQL database.
- Reduced query execution times by **25%** and achieved cost savings of **15%** through optimization.

Associate Data Engineer Intern
July 2022 – October 2022

- Built scalable data pipelines handling **1TB+** daily data using **Azure Data Factory (ADF)** and **Apache Kafka.**
- Improved real-time data transfer efficiency by **30%** through optimized workflow automation.
- Gained expertise in **SQL, Power BI, and SSIS,** contributing to efficient data operations.

Skills

- **Programming**: Python, SQL
- **Data Engineering**: Azure Data Factory, Apache Kafka, MySQL, SQL Server, Power BI
- **AI/ML**: Scikit Learn, TensorFlow, Deep Learning (CNN, RNN), Computer Vision, NLP
- **Tools & Technologies**: Elasticsearch, AutoGen, Llama Parse, OpenAI, Log Parser, LangGraph, LangChain.

Certifications

- **DP-300**: Microsoft Certified Azure Database Administrator Associate
- **DP-203**: Microsoft Certified Azure Data Engineer Associate
- **AI-102**: Microsoft Certified Azure AI Engineer Associate
- AWS Authorized Training - Cloud Practitioner Essentials

Education

- **Masters in Computer Applications**
  Dr. Ambedkar Institute of Technology, Bengaluru | CGPA: 9.32
- **Bachelor of Science (BSc.)**
  KLE Society's S. Nijjalingappa College, Bengaluru | CGPA: 8.6

Key Accomplishments

- Improved chatbot accuracy and efficiency by **40%** through enhanced metadata indexing and schema adaptation.
- Led a MySQL database migration project, achieving **15%** cost savings.
- Automated IIS log analysis, reducing manual effort by **50%** and streamlining storage for **500GB+** logs.
- Enhanced document-based chatbot response accuracy by **25%** using AI-driven text and image processing.