DURAIRAJ K

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EDUCATION

MCA, Vellore Institute of Technology	**Vellore, Tamil Nadu, India**
CGPA: 7.96	*June 2020 - April 2022*
BCA, Vellore Institute of Technology	**Vellore, Tamil Nadu, India**
CGPA: 7.86	*June 2017 - April 2020*
Sri Venkateshwara Hr.sec School	**Salem, Tamil Nadu India**
Per:83%	*June 2016 -April 2017*

TECHNICAL S K I L L

Programming Languages: Python, AzureOpenAi, Conversational Ai Application, Rag, Prompt Engineering.
Libraries and Tools: Git, VS Code, Jupyter NoteBook, GitHub Copilot.

PROJECT & WORK EXPERIENCE

ASSOCIATE SOFTWARE ENGINEER – Mphasis (Aug 2023 to Present Working)

Project Name	Knowledge Graph (Graph DB)
Organization	Mphasis Ltd.
Duration	Dec 2024 - Present
Environment	Python, Neo4j aura.
Role	GenAi Developer

Description of Project:

This project builds a Knowledge Graph using Neo4j to extract and analyze information from resumes. It uses LLMs, transformer models, and RAG (Retrieval-Augmented Generation) to process unstructured resume data and convert it into structured graph representations. Neo4j stores entities like candidates, skills, and job roles, while relationships like "has skill" or "worked at" enhance searchability. LangChain and Cypher queries help retrieve meaningful insights for better job matching and recommendations. The project integrates AI, NLP, and graph databases to improve talent discovery and hiring efficiency.

Responsibilities:
- Extracted, processed, and structured data from CSV files for efficient storage.
- Designed and implemented a Neo4j Graph Database to store and manage relationships.
- Ensured seamless data retrieval using graph queries (Cypher) for optimized performance.
- Preprocessed and split data to enhance query efficiency and knowledge representation.
- Integrated the structured graph with AI models for advanced data analysis and retrieval.

Project Name	Multi Model RAG
Organization	Mphasis Ltd.
Environment	Python, LLM, Llama parse
Role	GenAi Developer

Description of Project:

This project implements a multi-modal Retrieval-Augmented Generation (RAG) pipeline using the FAISS index for efficient similarity search. It focuses on retrieving relevant information by embedding and indexing structured and unstructured data. FAISS enables fast and scalable vector search, improving knowledge retrieval for LLM-based applications. The system enhances response accuracy by efficiently fetching relevant content from large datasets. This approach is useful for question-answering, document search.

Responsibilities:
- Implemented FAISS Index for fast and scalable similarity search across large datasets.
- Developed a multi-modal RAG pipeline, integrating FAISS for effective data retrieval and augmentation.
- Embedding and indexing both structured and unstructured data to optimize knowledge retrieval.
- Enhanced the accuracy of LLM-based applications by improving information retrieval processes.
- Optimized the pipeline for real-time question-answering and document search capabilities.

Project Name	Document Summarizer Using NLP
Organization	Mphasis Ltd.
Duration	Aug 2024 – Dec 2024.
Environment	Python, Html, CSS.
Role	GenAi Developer

Description of Project:

- Developed a real-time NLP-based chatbot using Python, spaCy, and NLTK, focusing on accurate intent recognition and query resolution.
- Implemented advanced text preprocessing techniques like tokenization, NER, and sentiment analysis to enhance chatbot performance.
- Integrated the chatbot with a live web platform using REST APIs for improved response time and engagement.
- Designed and deployed machine learning models for language understanding and document classification to optimize responses.
- Collaborated with cross-functional teams to ensure smooth deployment and continuous production improvements, leveraging Streamlit for efficient application deployment.

Responsibilities:
- Developed a real-time NLP-based chatbot using Python, spaCy, and NLTK, enhancing intent recognition and user query resolution.
- Integrated the chatbot with a live web platform using REST APIs and deployed models for language understanding and document classification.
- Collaborated with cross-functional teams for seamless deployment and continuous improvements, utilizing Streamlit for efficient application management.

CERTIFICATIONS

- Al-101 Certification for Mphasis.ai
- GitHub Copilot Essentials
- Oracle Database Fundamental, SQL
- Natural Language Processing (NLP)

PERSONAL DEATAILS

Date of Birth	22-10-1999
Sex	Male
Nationality	Indian
Languages	English, Telugu, Tamil
Strength	Adaptable, Collaborative, Friendly, Curious learner
Interests	Blogs, Artificial Intelligence