SATYA SAI TARUN MATTA

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EDUCATION

Master of Science in Computer Science – Texas A&M University, Corpus Christi   **May 2025**
Bachelor of Technology in Computer Science – Raghu Institute of Technology, India   **May 2022**

TECHNICAL SKILLS

GenAI & LLMs	Ollama, LLaMA3, Transformer Architectures, Prompt Engineering, Fine-tuning, Retrieval-Augmented Generation (RAG), Diffusion Models, GANs, Variational Autoencoders, LangChain
Programming	Python, SQL
ML Frameworks	TensorFlow, PyTorch, Hugging Face Transformers, scikit-learn
Cloud	AWS (SageMaker, Lambda, EC2, S3)
Tools and Libraries	Docker, Kubernetes, Git, Jupyter Notebooks, Fast API, Google Colab
Data & Databases	PostgreSQL, SQL, Pandas, NumPy

EXPERIENCE

Developer Intern   **Aug. 2022 – Mar. 2023**
G G Engineering Works   *Hyd, India*

- Developed and maintained RESTful APIs using **Flask**, improving backend functionality for internal tools and customer-facing applications.
- Collaborated with senior developers to design endpoints, handle data validation, and implement error handling for robust API workflows.
- Worked with **PostgreSQL** and integrated APIs with frontend components using JSON-based communication.

PROJECTS

CookingBot – Fine-Tuned LLM for Recipe Assistance   **Apr. 2025**
Sole Developer

- Fine-tuned a Large Language Model (LLM) using the **RecipeNLG dataset** from kaggle to create a specialized cooking assistant capable of answering recipe, ingredient, and dietary questions.
- Customized system prompts and applied domain-specific constraints to ensure focused responses within culinary topics only.
- Deployed locally using **Ollama** and integrated with a simple **chat interface** for real-time user interaction.
- Enabled natural language understanding of ingredients, substitutions, and preparation methods, mimicking expert-level cooking guidance.

Drive-Thru Voice Assistant | Python, Llama 3, SpeechRecognition, gTTS, Streamlit   **Mar. 2025**
Sole Developer | GitHub link: https://github.com/tarun0matta/drivethru-chatbot

- Developed a real-time voice-based ordering assistant using a local LLM (Llama 3), enabling natural conversation for placing fast-food orders.
- Integrated speech-to-text (STT), intent parsing with LLM, and text-to-speech (TTS) to simulate a seamless drive-thru experience.

Text-to-SQL Query Generator | Python, OpenAI API, SQL, Streamlit   **Jan. 2025**
Sole Developer | GitHub link: https://github.com/tarun0matta/text-2-sql

- Built a natural language interface that converts user queries into executable SQL using Open Chat LLM.
- Enabled querying structured business data (e.g., employee info, sales logs) without SQL knowledge, enhancing accessibility for non-technical users.

PDF-based Q&A using RAG | Python, LangChain, FAISS, Hugging Face Transformers   **Dec 2024**
Sole Developer | GitHub link: https://github.com/tarun0matta/rag-implementation

- Implemented a Retrieval-Augmented Generation (RAG) pipeline to answer questions based on content from uploaded PDFs.
- Utilized chunking, embeddings, and vector search to retrieve contextually relevant text and generate accurate answers via LLM.