

Abhigna Vadlamudi

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Motivated Computer Science graduate with a strong foundation in Python, LLMs, and GenAI technologies. Actively building full-stack AI applications using LangChain, Streamlit, and vector embeddings. Seeking roles where I can apply my technical and analytical skills to solve complex challenges and apply development skills to real-world AI solutions.

Education

University of Houston

Master of Science in Computer Science

Houston, TX

May 2025

Relevant Coursework: data structures algorithms, deep learning, database systems, visualization, distributed computing

GITAM

Bachelor of Technology in Computer Science and Engineering

India

April 2023

Skills

Languages and Tools: Python, SQL, JavaScript, HTML, CSS, Git, Streamlit, REST APIs, Microsoft Dynamics CRM

AI/LLM Frameworks: LangChain, OpenAI API, FAISS

Data Visualization & ML Libraries: Pandas, NumPy, Scikit-learn, Matplotlib, Power BI, Tableau

Core AI Concepts: Retrieval-Augmented Generation, Text Summarization, Sentiment Analysis, Prompt Engineering

Academic Projects

Multiformat Document Chatbot

Python, Streamlit, FAISS, LangChain, openpyxl, python-pptx, PyMuPDF

- Built a document chatbot that accepts PDF, Excel, and PowerPoint files, **extracts** content, and performs **summarization** and question-**answering** using local vector **embeddings** (FAISS).
- Designed modular **text parsing** pipelines for structured (Excel), unstructured (PDF), and visual (PPT) formats.
- Implemented a Streamlit UI enabling document **upload**, and **semantic search** Q&A via a LangChain RAG pipeline.
- Optimized **chunking strategy** and embedding quality to support fast retrieval from documents up to 45 pages.
- Currently extending to support **image** input to handle scanned documents.

Resume Critique Assistant

Python, Streamlit, OpenAI API, spaCy, Prompt Engineering

- Built a GenAI tool using OpenAI's GPT API to **evaluate** resumes against job **descriptions** and generate **targeted**, personalized critiques.
- Engineered **structured prompts** to assess keyword alignment, formatting, and tone, returning actionable improvement suggestions.
- Used spaCy to extract **key** resume **sections** and format them into a model-friendly structure.
- Created a Streamlit interface for **uploading** resumes and job descriptions with **feedback** output from the LLM.
- Managed **token limits** and cost optimization through prompt truncation and summarization techniques.

Customer Sentiment Classifier from Support Tickets

Python, Pandas, Scikit-learn, BERT, Matplotlib

- Trained a sentiment analysis classifier on ~4,000 real-world support messages using a fine-tuned BERT model, achieving **92% accuracy**.
- Applied **NLP preprocessing** techniques and used **class weighting** to balance imbalanced datasets.
- Built a data pipeline to ingest, clean, and vectorize text data, and evaluated results with **F1** metrics and **ROC** curves.
- **Visualized** insights via Matplotlib to guide customer support strategy based on sentiment trends.

Certifications & Learning in Progress

- Generative AI with Large Language Models: Coursera, In Progress
- LangChain Bootcamp Custom Projects Track
- SQL for Data Analysis: Kaggle

Additional Experience

Led marketing outreach and partner communications at **AIESEC in India**, improving audience engagement by 35%. Delivered high-volume customer service at Chick-fil-A, strengthening interpersonal and time-management skills.