Jeswin M S

📍 Bangalore, IN · 📞 +91 9901624217 · ✉ jeswinms2003@gmail.com · 🔗 <u>Jeswin MS</u>

Education

Ramaiah Institute of Technology — Bangalore
B.E in Computer Science and Engineering (AI & ML) — *2021 – 2025*
- Current CGPA: 9.07/10
- Coursework: Data Structures, Algorithms, Software Engineering, DBMS, Computer Networks, Operating Systems, OOPS with C++, Compiler Design, Machine Learning, Deep Learning

Work Experience

ML Research Intern — Oct 2023 – Mar 2024
Unisys — *Remote*
- Accomplished development of **Multi-Level Generative AI** project, successfully integrating Large Language Model (LLM) with agents using diverse approaches for query classification.
- Designed domain and subdomain classifiers using **Sentence Transformers**.
- Created a binary tree-based structure employing **TF-IDF Vectorizer** for keyword allocation along with Query Strategies for efficient document classification.
- **Highlights:** 5800+ downloads on HuggingFace for the dataset - JeswinMS4/HR_FIN_CLASSIFIER_DATA

ML Intern — May 2023 – Oct 2023
Yubi (Fintech company) — *Remote*
- Designed a chatbot system aimed at answering questions based on a given document using LLMs such as Llama-2, Flan T5, and other models with Haystack and LangChain.
- Experimented on Fine Tuning Llama2 using Ludwig and PEFT for custom made daily news dataset using **QnA T5** model.
- **Highlights:** Benchmarked the Extractive model with an Indian context dataset achieving **F1 score of 92.16%**

Projects

SEVA AI (Real-Time Conversational AI System)
- Developed a **real-time** Automatic Speech Recognition (ASR) system using WebSocket for streaming audio from client to server.
- Integrated **distil-whisper-large-v3** for ASR, pyannote for **diarization,silero VAD** for voice activity detection and audio processing techniques to handle noise and enhance audio quality.
- Fine-tuned **HuBERT** model for real-time customer tone classification and sentiment analysis on transcribed text for comprehensive emotion understanding.
- Designed an advanced RAG system using **Langraph** with **adaptive, corrective, and self-corrective** mechanisms, utilizing OpenAI GPT-3.5 for response generation and integrated Weaviate as vector store.

File Distribution Tool
- Developed a **File Distribution Tool** using **TCP Protocol** to efficiently manage file transfers.
- Integrated Group Management System allowing admins to create and manage groups seamlessly.
- Implemented **Multicasting** in two UDP phases: **with ACK** and **without ACK** for enhanced performance.

Paper Replications and DL Projects
- Replicated **CycleGAN** for Image-to-Image Translation for Sketch to Photo Realistic Images.
- Fine-tuned open-source LLMs using **instruction tuning** and **PEFT** techniques.
- Fine-tuned various **encoder-type** transformer models from Hugging Face for specific tasks.

Skills

- **Programming Languages:** C/C++, Python
- **Databases:** MySQL, MongoDB, Weaviate
- **Frameworks and Tools:** PyTorch, TensorFlow, HuggingFace, Flask, Scikit-learn, NumPy, Pandas

Achievements

- **1st Runners up** in Bank of Baroda Hackathon, prize of **3 lakhs**
- **2nd Runners up** in Tally CodeBrewers 2024 - Wizard of System Programming
- **Winner** at MSRIT internal hackathon and Face recognition competition
- **Finalist** at the Smart India Hackathon (SIH-23)
- **PR and Sponsorship Lead**-Artisec RIT-2023