VARSHITH GADDAM

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PROFILE

AI & Data Science student with a strong foundation in programming, machine learning, and data-driven solution development. Experienced in building and deploying AI-powered applications to address real-world challenges. Demonstrated problem-solving abilities, evidenced by solving 380+ LeetCode problems and maintaining a 365+ day consistency streak. Eager to contribute innovative AI solutions and optimize business outcomes in dynamic and challenging environments. Passionate about leveraging advanced technologies to drive measurable impact

PROJECTS

Change Detection in Satellite Imagery

Developed an AI/ML-based change detection system to automatically identify man-made developments in satellite imagery, addressing the challenge of minimizing missed urban changes. Built and trained a U-Net–based deep learning model for high-recall change detection, integrated into a web application that allows users to upload imagery pairs and receive real-time predictions with visual overlays. The system generates both pixel-level change maps and concise text summaries categorizing small alterations versus major developments, enabling more effective monitoring of urban growth and infrastructure changes.

FINCEPTOR - AI-POWERED FINANCIAL INTELLIGENCE PLATFORM

Built a Gen Z-focused financial advisory platform that transforms complex corporate filings into actionable insights, making financial decision-making more accessible. The system features an interactive web interface, persona-driven investment guidance through real-time chat, and AI powered analysis of SEC filings, including special handling for large-cap companies like Tesla. Implemented **Retrieval-Augmented Generation (RAG)** pipeline using **Pinecone vector DB** and **LLM APIs (Gemini/OpenRouter)** for intelligent document search and summarization., while providing personalized, engaging, and easy-to-understand financial recommendations tailored for young investors.

SpeechScore AI

Developed a full-stack web application for advanced audio analysis that enables users to upload or directly record audio for detailed evaluation. The system extracts key vocal and musical features such as pitch, tempo, jitter, shimmer, and melody similarity, while offering a dynamic interface with real time recording and secure user authentication. A standout feature is the comparative analysis module, which scores performances against a reference track to identify the "best singer," making the platform both analytical and engaging for users.

TECH STACK

Programming: Python, C, Java (Intermediate)
Data Structures & Algorithms: Arrays, Linked Lists, Trees, Graphs, Dynamic Programming
AI & ML: PyTorch, TensorFlow, Scikit-learn, OpenCV, NumPy, Pandas, Transformers, LLMs
Web Development: FastAPI, Flask, React, TailwindCSS, PostgreSQL, Supabase
AI Tools & Platforms: Pinecone, OpenAI API, Google Gemini, LangChain, GCP

CERTIFICATES AND MEMBERSHIP

- Python with Machine Learning – Coursera
- Career Essentials in Generative AI – Microsoft & LinkedIn
- Python Certification – Moratuwa University, Sri Lanka
- Software Engineering Job Simulation – JPMorgan via Forage
- Associate Member – ACM Student Chapter
- Image processing and Computer Vision – Coursera

EDUCATION

- **BTECH IN ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING –** Vignan Institute of Technology and Science – (8.3 CGPA) **2023-2026**
- **DIPLOMA IN MECHANICAL ENGINEERING –** Government Polytechnic college, Kothagudem – (9.83 CGPA) **2020-2023**

ACHIVEMENTS

- 1x Hackathon Winner - Developed an AI-driven environmental cleanup system
- Solved 380+ LeetCode problems with a 365-day streak, demonstrating strong Data Structures and Algorithmic problem-solving skills