

# GUNEESH VATS

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## EDUCATION

B. Tech. in Electronics & Communication +  
MS (R) in Speech Processing & AI  
IIIT Hyderabad

Jul 2021 – 2025

MS CGPA : 9.0      B.Tech CGPA : 8.43

- Teaching Assistant (Monsoon 2024): Assisted in the course Software Systems Design, focusing on DevOps tools.
- Teaching Assistant (Spring 2024): Assisted in deep learning assignments for Cognitive Science & AI, including fMRI analysis.

Senior Secondary Education in Sciences  
DAV Public School, Panipat

Jul 2017 – 2019

- Percentage: 94%

## EXPERIENCE

Founding ML Engineer      @ Adalat.AI

Oct 2024 – Present      New Delhi, India (Remote)  
Full-Time Intern

- Developed and fine-tuned advanced ASRs, utilizing Nvidia RIVA for ultra-low latency in real-time ASR and Nvidia NeMo for scalable, modular model training, fine-tuning, & deployment in production.
- Built scalable Streaming ASR pipelines for live court transcriptions, adv audio data augmentation, reducing model size by 25% with pruning and using multi-GPU training & various techniques to accelerate real-time inference.

Web Administrator      @ eMSIT Program, IIIT-H

Jun 2024 – Present      Hyderabad, India

[Link to the website](#)

- Managed and developed websites for the eMSIT program, a Coursera-offered MS Programme by IIIT Hyd for students all over the world. Implemented scalable architectures to support high user traffic.

Machine Learning Engineer      @ Proxzar.AI

Jan 2024 – May 2024      Hyderabad, India

Part-Time Intern

- Led development and deployment of an automated knowledge graph for large-scale unstructured product catalogs, designed a custom product schema, and fine-tuned LLMs, generating structured graphs of entities and relationships that improved search performance by 30% and scalability by 40%.

Undergrad Researcher      @ IIIT-H

May 2022 – Present      Hyderabad, India

- Investigating offline changepoint detection in channel codes (time series) using advanced statistical techniques and DL models, enhancing accuracy in detecting signal transitions. item
- Analyzing prosodic and spectral speech features to differentiate between Depressed and healthy individuals, alongside researching Speech Emotion Perception and developing DL models for accurate classification.

## SKILLS

Python

C/C++

R

MATLAB

Pytorch

CUDA

Nvidia RIVA

LangChain

LLMOps

GNN

NLP

AWS

Knowledge Graph

x86-64 Assembly

ASR

Stats

Data Structures

RAG

JS

React

Node

Git

Docker

Spark

MongoDB

FastAPI

Azure

Streamlit

Shell

SQL

OS, DBMS

System Design

## PROJECTS

Knowledge Graph: Transforming Text into Visual Knowledge | Pytorch, PyVis, Mistral 7B, Ollama, Pandas, LangChain

[Project Link](#)

- Converted unstructured text into interactive knowledge graphs using LLMs for concept extraction and semantic relationships. Optimized graph accuracy with clustering algorithms.
- Deployed a scalable KG eliminating external API dependencies and enabling Graph Retrieval Augmented Generation (GRAG).

Claim Crafter: Automated Claim Extraction Library | Pytorch, CUDA, NLTK, LLama3, Semantic Matching, QLoRA, SOLID Principles

[Project Link](#)

- Built a flexible library to classify and extract claims from noisy text data, supporting fine-tuning of LLMs. Achieved 83% accuracy with multi-GPU optimization.

SEC 10k Filings : RAG powered Q&A Chatbot | Streamlit, Pytorch, RAG, ChromaDB, LangChain, LLMs

[Project Link](#)

- Developed a Q&A chatbot using RAG to analyze SEC Edgar filings.
- Created a Streamlit web interface with ChromaDB for high-performance data queries.

GNN-Powered Anomaly Detection | Pytorch, GAT, T-SNE, Time Series Data

[Project Link](#)

- Developed a Graph Deviation Network (GDN) for detecting anomalies in multivariate time series data using sensor embeddings and GAT forecasting.

## ACHIEVEMENTS

AIR #3  
UGEE Exam, IIIT Hyderabad, 2020

Top 0.01% (4.5L participants)  
Finalist in Flipkart GRID 5.0 Hackathon, 2023

Top 1% of Batch  
Dean's List, Spring 2023, Monsoon 2022

Top 10 Globally (SP Cup)  
IEEE ICASSP Grand Challenge, 2024