Manchuru Geethika

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Aspiring software engineer with a strong passion for pushing the boundaries of technology. I have a relentless drive to learn and stay current with the latest industry trends. I am eager to apply my coding skills and contribute to innovative software solutions that can make a meaningful impact and help shape the future of technology.

EDUCATION

Vellore Institute of Technology, Chennai   *2021 - 2025*
Bachelor of Technology in Computer Science with Specialization in AI & ML (B.Tech)
CGPA: 9.04

Sri Chaitanya Junior College, Tirupati   *2019 – 2021*
Intermediate (MPC), Percentage: 91.7%

WORK EXPERIENCE

I&T Labs
Project Intern   *Aug 2023 – Oct 2023*

- **Face Recognition and Detection using Python:** Utilized OpenCV to implement facial detection and recognition systems by loading and processing images with pre-trained Haar Cascade classifiers.
- Enhanced system functionality by integrating additional features such as identification and emotion analysis, improving application versatility and user experience.

PROJECTS

Energy-Efficient IoT System Using RL and KD

- This project introduces an IoT-based smart agriculture framework that utilizes federated learning, edge computing, and model optimization to reduce energy consumption. We simulated real-world sensor behavior using synthetic data and implemented clustering algorithms to improve resource management.
- Two models were compared — Reinforcement Learning (RL) and Knowledge Distillation (KD), with KD achieving a smoother and more accurate 8.41% reduction in energy usage. The study highlights KD as the most effective approach for balancing generalization and efficiency in smart farming.

Multimodal Analysis for Speech Emotion Recognition

- Led multimodal data fusion using four benchmark datasets (CREMA-D, RAVDESS, SAVEE, TESS), improving model generalizability and laying the groundwork for scalable SER systems in healthcare and human-computer interaction.
- Designed and implemented deep learning models (CNN, LSTM, Bi-LSTM with multi-head attention) for robust Speech Emotion Recognition, achieving up to 99.91% accuracy across eight emotional categories and published at the *2024 IEEE International Conference*, contributing to advancements in affective computing and emotion-aware AI systems.

Portfolio Website: https://geethikam18.github.io/portfolio/

SKILLS & INTERESTS

Technical skills: Python, DSA, Tkinter, Power BI basics, SQL.

Skills: Problem Solving, Creativity, Teamwork, Critical Thinking, and Analytical Skills.

VITeach, VIT Chennai - Student Instructor   *Apr 2023 – May 2024*

Empower underprivileged students through engaging and interactive lessons in Math, Computer science, and English.