

VENKAT AKHILA REDDY

| [Email](#) | [LinkedIn](#) | [Github](#)

EDUCATION :

University of Michigan, Dearborn ,MI

Masters in Computers and Information Science

Sreenidhi Institute of Science and Technology, Hyderabad, TG

Bachelors in Electronics and Computers

January 2026

GPA -3.5/4.0

June 2023

GPA - 3.5/4.0

ACADEMIC PROJECTS:

Crown-of-Thorns Starfish (COTS) Detection using Transformers:

October 2024 - Present

- Built a Crown-of-Thorns Starfish (COTS) detection model using DETR (Detection Transformer), achieving 92% detection accuracy.
- Fine-tuned a pretrained model on a dataset of 400 labeled images, reducing detection errors by 20%.
- Improved training efficiency by 30% with PyTorch Lightning and optimized model performance using hyperparameter tuning, validated with a mAP score of 0.85.

Vocal Lift – Turning words into uplifting audio responses.

August 2024 -October 2024

- Engineered a mood enhancing chatbot with Langchain and OpenAI LLM, achieving 90% response accuracy through conversation memory.
- Boosted user engagement by 50% using text to audio conversion with gTTS and Playdub, creating an immersive auditory experience. Customized prompt templates to ensure precise, context based replies, enhancing user satisfaction.
- Deployed on Streamlit, delivering an accessible, real time interface for interactive user engagement.

Predicting Cognitive Decline using Transfer Learning:

March 2024 - August 2024

- Designed a cognitive decline prediction model using EfficientNetB4, achieving a 15% improvement in accuracy through transfer learning strategies.
- Enhanced training efficiency by 30% through Hyperband tuning and early stopping, reducing training time and minimizing overfitting. Increased diagnostic reliability with EfficientNetB4's architecture, supporting early clinical interventions.

Audio Assistant based Image Captioning System:

April 2022-June 2022

- Developed a real time audio captioning system, enhancing navigation accuracy by 35% for visually impaired users.
- Improved processing speed by 25% by refining model integrations, allowing seamless user interaction .Attained 90% user satisfaction in testing, validating context aware descriptions for real world usage.

Pneumonia Detection using Deep Learning

December 2021 - March 2022

- Created a CNN based model with 93% accuracy, reducing diagnostic time by 40% for faster healthcare interventions.
- Verified clinical reliability through trials, confirming suitability for diagnostic applications. Standardized model performance across diverse imaging sources, ensuring scalability in clinical environments.

EXPERIENCE:

AICTE STUDENT INTERN:

March 2023 – September 2023

- Remediated 12 security vulnerabilities, bolstering system defenses and averting potential breaches.
- Reduced response times by 30% with advanced monitoring and streamlined protocols.
- Instructed 500+ stakeholders in cybersecurity, achieving a 20% compliance improvement.

TEACHING ASSISTANT:

August 2021-June 2022

- Mentored 30 students in data structures, leading to a 10% improvement in grades. Increased lab completion rates by 15% through structured, practical sessions.
- Lowered assignment errors by 20% with detailed feedback on over 100 submissions.

CERTIFICATIONS

SMART INTERVIEWS -SMART CODER GOLD CERTIFICATION :

June 2021-July 2022

- Completed over 100 coding challenges with a 95% success rate, consistently applying logic and precision across varied tasks.
- Ranked in the top 1% for competitive programming and technical interview performance.

SKILLS

Programming Languages: Proficient in Python, Java, C, C++, and SQL.

Machine Learning & Deep Learning: Skilled in using TensorFlow, Keras, Scikit-Learn, and other ML/DL libraries for model development

NLP & AI: Hands-on experience with natural language processing and AI tools such as LangChain, ChatGPT, and OpenAI LLM for chatbot

Cybersecurity: Knowledgeable in security protocols, risk assessment, and vulnerability analysis from academic and research experience.

Development & Deployment: Familiar with cloud platforms, containerization, and frameworks including Streamlit for deploying applications.

EXTRA CIRCULAR ACTIVITIES

Graduate Representative, Dearborn Community of Engineers: Advocated for graduate students and promoted professional development opportunities.