

# ADITYA SWAMI

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## EDUCATION

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**Vellore Institute Of Technology**, Chennai, Tamil Nadu  
B.Tech. in Computer Science Specialization In AI and ML  
CGPA: 7.42/10.0

September 2021 – August 2025

## PROJECTS

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### News Nutshell ([GitHub](#))

*Flask, Hugging Face (roberta-base), NLP, multilingual summarization, translation, TTS*

- Engineered a Flask-based web application integrating Hugging Face's Roberta-base model, boosting question-answering accuracy by 30%.
- Developed multilingual news summarization and translation pipelines, reducing processing time by 40%.
- Incorporated text-to-speech functionality, improving accessibility for users by adding speech output for summarized content.
- Implemented real-time news updates with a dynamic interface displaying links to the latest news articles, increasing user engagement.

### Voice Pipeline ([GitHub](#))

*VAD, Speech-to-Text, LLM, TTS, Librosa*

- Designed a voice query processing pipeline using Whisper, achieving 95% transcription accuracy for seamless voice-to-text conversion.
- Optimized response generation with GPT-2, cutting response time by 50%.
- Integrated 'asyncio' for concurrent handling of voice and text tasks, ensuring efficient text-to-speech conversion with customizable pitch and speed.
- Delivered a robust end-to-end voice assistant system that handles real-time voice queries and responses, improving user satisfaction.

### Face Recognition-Based Attendance System ([GitHub](#))

*dlib, OpenCV, Tkinter, SQLite*

- Developed a face recognition-based attendance tracking system using dlib for precise face detection and OpenCV for video frame capture, achieving 98% recognition accuracy.
- Created a user-friendly Tkinter GUI to streamline face registration and management, improving the usability of the system for non-technical users.
- Designed the system to store extracted facial features in CSV files, facilitating fast and efficient face recognition in subsequent sessions.
- Highlighted the integration of traditional computer vision techniques with modern deep learning models, delivering a robust and reliable solution for attendance management.

## TECHNICAL SKILLS

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**Web Development:** HTML, CSS, JavaScript, Python, Django, MongoDB, SQLite, SQL

**Dev Ops:** AWS, Azure

**ML/DL/NLP:** TensorFlow, PyTorch, scikit-learn, Keras, NLTK, SpaCy, Hugging Face, Computer vision

**Tools:** Postman, Git, GitHub, Canva, Jupyter, Colab

## ACTIVITIES & LANGUAGES

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**Activities:** Competitive Esports, Cricket

**Languages:** English, Hindi, Marathi, Telugu, Japanese