VIGNAN'S INSTITUTE OF INFORMATION TECHNOLOGY
(AUTONOMOUS)
(Approved by AICTE-New Delhi & Affiliated to JNTU-GV, Vizianagaram)
Beside VSEZ, Duvvada, Vadlapudi Post, Gajuwaka, Visakhapatnam - 530 049.

MAJOR PROJECT ABSTRACT

BATCH : **08**

Department : **Computer Science And Engineering-Cyber Security**

Year/Semester : **IV/II**

Domain of the Project : **Artificial Intelligence(computer vision) Integrated with IOT and Web Technologies**

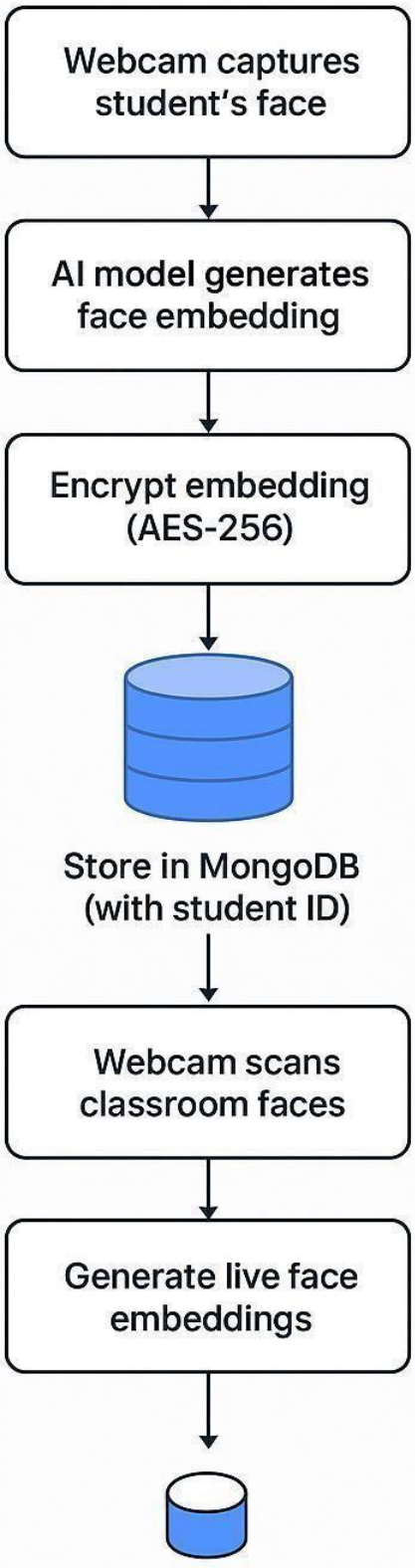
Guide Name & Designation : **Miss Manju Bhargavi**

Title : **VerifAI Attendance system**

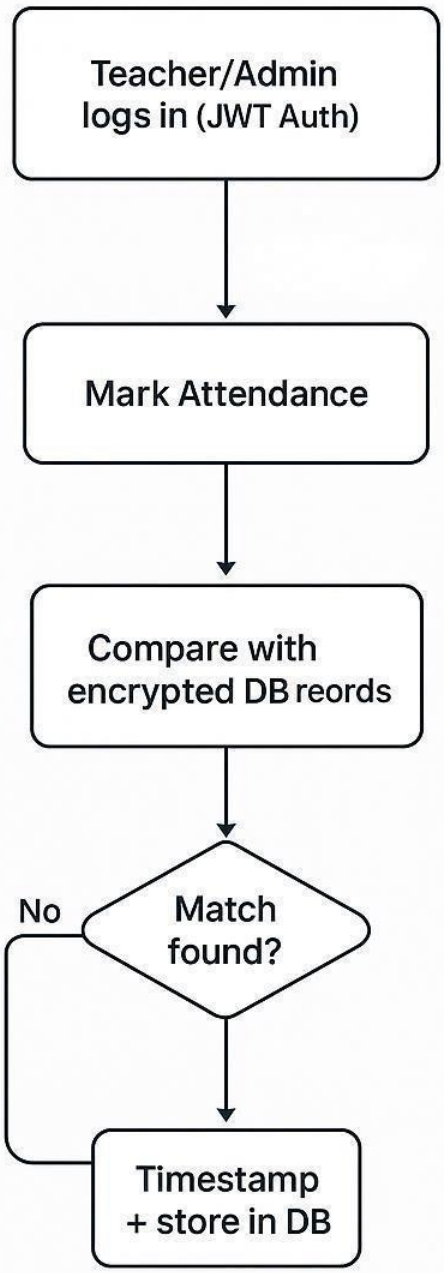
Abstract:

we introduces the development of a **VerifAI**, designed to automate the attendance-taking process while ensuring the privacy and security of biometric data in educational environments. Manual attendance methods are often time- consuming, error-prone, and susceptible to manipulation, such as proxy attendance. This system addresses these challenges by leveraging **AI-based face recognition** through technologies like **face- api.js** or **OpenCV**, integrated within the **MERN (MongoDB, Express.js, React.js, Node.js)** technology stack. Instead of storing raw facial images, it captures **face embeddings**—numerical representations of facial features—which are encrypted and securely stored in MongoDB. **AES Encryption**, **HTTPS**, **JWT-based authentication**, and **role-based access control** ensure data privacy and system integrity. During registration, a webcam captures the student's face, converts it into an embedding, and stores it securely. In class, the system performs real-time recognition, matches live embeddings with stored data, and logs attendance with timestamps. Teachers and administrators manage records through a secure, web-based dashboard. The system is **cost-effective**, requiring only basic hardware and internet connectivity, and is **scalable** for deployment across classrooms or institutions. By combining **AI, computer vision, and cybersecurity**, the system delivers a modern, efficient, and privacy-conscious alternative to traditional attendance methods.

Keywords: Face Recognition, AI-Powered, Biometric data, Encryption, MERN Stack, Real-time Recognition, Cyber Security.



Enrollment Phase



Admin/Teacher Access

S. No	Student Name	Register Number	Signature of Student
1.	Injeti Sushmitha	22L31A4617	
2.	Surya Pravallika Nimmala	22L31A4638	
3.	Entenuka Hemanth	23L35A4613	
4.	Kondapalli Venkat	23L35A4603	

Supervisor **Project Coordinator** **Head of the Department**