

# Shan Shaji

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## Profile Summary

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Passionate and curious **Full-Stack Engineer** with hands-on experience in building web applications using the MERN stack and integrating LLM-based features. Skilled at translating product problems into scalable technical solutions and building end-to-end systems. Thrives in fast-paced, collaborative startup environments and eager to contribute to product development and AI-assisted features.

## Technical Skills

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**Web & Frontend** MERN Stack (MongoDB, Express.js, React.js, Node.js), HTML, CSS, Bootstrap  
**AI & LLMs** Large Language Models (LLMs), OpenAI / Gemini APIs, Prompt Engineering

## Experience

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### Software Engineering Intern

Mar 2024 – Apr 2024

Luminar Technolab, Kochi, Kerala

- Built interactive dashboards and full-stack components for student analytics platforms.
- Improved backend performance by optimizing processing logic and reducing latency by 20%.
- Collaborated with cross-functional teams contributing to both UI and backend development.

### Software Development Intern

Jul 2023 – Aug 2023

Cochin Smart Solutions, Ernakulam, Kerala

- Automated data workflows integrating Node.js and MongoDB to improve reporting efficiency.
- Implemented REST APIs and backend modules for client dashboards.
- Participated in testing, debugging, and documenting features in a fast-paced environment.

## Projects

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**Bello – Real-Time Messaging & Video Conferencing Platform** — React.js, Tailwind CSS, Node.js, MongoDB, WebRTC, ZegoCloud, Ethereum, IPFS, OpenAI APIs

- Built a real-time messaging and video conferencing platform with seamless chat, high-quality voice/video calls, and productivity tools.
- Integrated AI features including multilingual translation, message summarization, text-to-speech, and an AI personal assistant (Gemini/OpenAI).
- Implemented decentralized message backup: messages stored on IPFS with CIDs written to the Ethereum blockchain; supported restore via CID.
- Added encrypted user authentication backup via IPFS-based email storage; integrated Spotify Web API for in-chat music sharing.
- Tech Highlights: React.js, Tailwind CSS, Node.js + Express, MongoDB, WebRTC/ZegoCloud, IPFS (Pinata), Ethereum, OpenAI APIs, Google Translate API, Spotify Web API.

**AI-Based Student Engagement Monitoring System** — React, Node.js, MongoDB, MediaPipe, OpenCV, WebRTC, Whisper/Google STT, OpenAI API

- Developed an educational platform that analyzes student engagement during live classes by computing Eye Aspect Ratio (EAR) from webcam streams and classifying engagement using an ML model.
- Implemented real-time transcription/subtitles for teacher speech using Whisper / Google Speech-to-Text to generate live captions.
- Integrated an LLM-based chatbot (OpenAI/Gemini) to provide on-demand doubt resolution for students.

- Built secure teacher workflows for uploading/downloading course notes; implemented frontend video stream handling via WebRTC.
- Engineered full-stack architecture with React frontend, Node.js/Express backend, MongoDB storage, and Python-based CV/ML services (MediaPipe + OpenCV).

#### **Restaurant Tip Predictor** — *JavaScript, Node.js*

Built an ML-powered predictor integrated into a simple web UI for estimating tip amounts based on customer attributes.

## **Education**

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### **Bachelor of Technology (B.Tech) in Computer Science**

*2022 – Present*

APJ Abdul Kalam Technological University, Kerala

## **Additional Highlights**

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- Strong interest in **LLMs**, generative AI, and building practical AI-assisted products.
- IEEE Member — Participated in hackathons, workshops, and AI study groups.
- Comfortable working in startups and collaborating with technical and non-technical stakeholders.
- Passionate about full-stack development, scalable systems, and continuous learning.