



# TIRUMALASETTY SASHI PAVAN

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## CAREER OBJECTIVE

Aspiring AI/ML Developer with strong expertise in MERN stack development and hands-on experience in computer vision using OpenCV and MediaPipe in Python. Proven ability in leading technical projects, integrating hardware-software systems, and delivering innovative solutions. Seeking to apply skills in software development and AI to contribute effectively to impactful, technology-driven projects.

## WORK EXPERIENCE

### AI & MERN Stack Intern – Indian Institute of Technology, Ropar (NPTEL 2025) (2 Months)

- Engineered an AI powered live polling system using MERN and Socket.IO, supporting 200+ users with instant updates, improving response time by 28%, ensuring 99.9% uptime, and increasing scalability by 40% through optimized APIs, secure authentication, Cloudinary integration, and collaborative GitHub workflows.

### AI & MERN Stack Intern – IIT Ropar (2 Months)

- Enhanced the polling platform by optimizing performance, stabilizing live data flow across all pages, and adding timer based questions. Expanded live functionality for questions, responses, and results using optimized Socket.IO events and state management.

## EDUCATION

**CHALAPATHI INSTITUTE OF ENGINEERING AND TECHNOLOGY** Guntur, Andhra Pradesh  
• Bachelor Of Technology (B.Tech), CSM(AI-ML), CGPA:9.1 2022-2026

### SRI CHAITANYA JUNIOR COLLEGE

• Board of Intermediate Education (MPC), Percentage:95.6% Tirupati, Andhra Pradesh  
2020-2022

## PROJECTS

### 1) Hand Gesture Communication

**Problem:** Deaf and non-verbal users face communication barriers during online meetings.

**Solution:** Built a real-time gesture-to-text system using OpenCV and MediaPipe to enable seamless, accessible interaction in virtual spaces.

### 2) Automatic Poll Generation Application ([PollGen](#))

**Problem:** Live polls during lectures, webinars, or meetings are often tied to specific video conferencing platforms, limiting flexibility and accessibility.

**Solution:** Developed an open-source web app for real-time poll creation, updates, and audience tracking, fully independent of any conferencing platform.

## TECHNICAL SKILLS

**Programming Languages:** Python, Java, JavaScript, TypeScript

**Web Development (MERN Stack):** HTML, CSS, React.js, Node.js, Express.js, MongoDB

**AI/ML & Computer Vision:** OpenCV, MediaPipe, TensorFlow, PyTorch

**Tools & Technologies:** Git, GitHub, Socket.IO, Cloudinary, Gemini API, Postman, VS Code

## CERTIFICATIONS

### 1) Cloud Computing (NPTEL – IIT Kharagpur)

Achieved Top 1% rank with 95% and earned a Gold Badge.

### 2) MongoDB Associate Developer (Global Certification)

Completed hands-on training in MongoDB with Java and Node.js, focusing on database design, CRUD operations, and RESTful API development.