

# Mahesh Kumar Jena

+91 6372552376 | [mkjena1512@gmail.com](mailto:mkjena1512@gmail.com) | [LinkedIn](#) | [GitHub](#) | [Portfolio](#) | [LeetCode](#) | Bhubaneswar, Odisha | Open to relocation

## CAREER SUMMARY

Computer Science (IoT) undergraduate (Class of 2027) with strong fundamentals in data structures, algorithms, AI/ML, and full-stack web development. Hands-on experience building production-grade MERN/Next.js applications, training and fine-tuning deep learning models, and designing REST APIs. Internship and contract experience developing scalable full-stack platforms with Docker and CI/CD pipelines. Team Lead on multiple AI-driven projects including a CNN-based image detector (87% accuracy) and an edge-cloud AIoT plant surveillance platform with MobileNetV2 fine-tuning. Open-source contributor with a merged PR on Cal.com (30k+ GitHub stars). Solved 262+ algorithmic problems across a 77-day streak. Passionate about building end-to-end AI-powered applications — from model fine-tuning and backend APIs to responsive frontend interfaces.

## EDUCATION

### Bachelor of Technology — Computer Science Engineering (IoT)

Institute of Technical Education and Research (ITER), SOA University  
CGPA: 6.79 (5 sems) | Latest SGPA: 7.35

Expected: July 2027

Bhubaneswar, Odisha

## TECHNICAL SKILLS

**Languages:** TypeScript, Python, Java, C/C++ (basics)

**Frontend:** React.js, Next.js, HTML5, CSS3, Tailwind CSS

**Backend:** Node.js, Express.js, REST APIs, WebSockets

**Databases:** PostgreSQL, MongoDB, MySQL, SQLite

**AI & ML:** TensorFlow, Keras, CNN (MobileNetV2), OpenCV, Transfer Learning, TFLite

**IoT & Embedded:** Raspberry Pi 4B, Pi Camera, Servo Control (GPIO), Flask, MQTT, CoAP, SCADA, Cisco Packet Tracer

**DevOps & Cloud:** Docker, Git, AWS, CI/CD (GitHub Actions), Vercel

**Core CS:** Data Structures & Algorithms, OOP, OS, DBMS, SDLC, Agile

## TECHNICAL EXPERIENCE

### Software Developer Intern — Tellis Technologies (Remote) | [offer letter](#)

Jul 2025 – Aug 2025

- Developed employee activity monitoring system tracking application usage and screenshots across distributed endpoints
- Built screenshot capture module with retry logic achieving 98% successful capture rate over 2-week testing period
- Reduced background sync frequency from every 30 seconds to 2 minutes for idle users, cutting API calls by 75%
- Created Next.js admin dashboard displaying activity timelines and generating automated weekly productivity reports

Technologies: Next.js, Node.js, PostgreSQL, REST APIs

### Full Stack Developer (Contract) — Celeriz — Fintech Platform (Remote)

Sep 2025 – Nov 2025

- Developed and deployed full-stack features for [celeriz.xyz](#), a production fintech platform offering neobanking, cross-border payments, DeFi lending, and stablecoin on-ramps
- Implemented secure authentication, OAuth integration, and Redux-based state management
- Built responsive, high-performance UI with optimised load times and session storage for complex client-side state workflows

Technologies: Next.js, Node.js, PostgreSQL, REST APIs, Redux

### Freelance Full Stack Developer (Remote) —

Oct 2024 – Mar 2025

- JM-Parts** | [Live Demo](#) — Extended an inventory management system with new features, session-storage persistence, and complex dynamic-workflow state management; reduced client-reported state bugs by refactoring data flow

## OPEN SOURCE

**Cal.com** — Contributor | [GitHub \(30k+ stars\)](#)

- [Merged PR](#) fixing an event configuration persistence issue affecting cancellation settings, implementing end-to-end data rehydration and automated regression tests to ensure accurate state restoration.

## PROJECTS

---

### Plant Health Surveillance — AIoT Platform with ML Model Training | [Live Demo](#)

May 2026

- Team Lead (7 members); architected a 5-layer hybrid edge-cloud AIoT platform: Raspberry Pi 4B edge node with Pi Camera, cloud ML inference, Flask REST API, SQLite logging, and a React.js monitoring dashboard
- Trained MobileNetV2 CNN (transfer learning + fine-tuning on PlantVillage dataset) with full preprocessing pipeline (CLAHE, resize 224×224, augmentation), achieving 91% validation accuracy for plant disease classification
- Flask REST API receives Pi image captures via HTTP POST, runs CNN inference with confidence thresholding (>70%), logs to SQLite; React.js dashboard delivers real-time disease alerts, confidence scores, treatment advice, and Telegram notifications

### Voice-Controlled Robotic Arm — AIoT Human-Robot Interaction | [LinkedIn Post](#)

Nov 2025

- Led 6-member team to design and build a voice-controlled 4-DOF robotic arm; architected full system — hardware integration, Flask backend, and browser-based React.js frontend with Web Speech API
- Raspberry Pi 4B acts as central controller; PCA9685 servo driver (I2C) enables precise PWM control of all 4 joints; Flask backend interprets voice commands and maps them to servo angles in real time
- Resolved browser HTTPS/microphone security constraints using Caddy as reverse proxy; deployed fully headless with automatic startup on boot

*Technologies: Raspberry Pi 4B, PCA9685 (I2C), Flask, Python, React.js, Web Speech API, Caddy*

### AI Image Detector | [Live Demo](#)

Mar 2025

- Trained CNN on 10,000+ images achieving 87% validation accuracy for AI-generated image detection
- Reduced false positive rate from 45% to 31% through iterative data augmentation and model fine-tuning
- Hackathon Finalist — Top 10 of 150 participants at university-level AI competition

*Technologies: Python, TensorFlow, Keras, Flask, React.js*

### Dots & Boxes — Real-Time Multiplayer Game | [Live Demo](#)

May 2025

- Built real-time multiplayer game using Socket.IO for live state synchronisation with move validation and turn-based logic
- Implemented PostgreSQL-backed game state persistence and responsive interface with dynamic board rendering

*Technologies: Next.js, Socket.IO, PostgreSQL, Tailwind CSS*

## ACHIEVEMENTS & EXTRACURRICULAR

---

- **Open Source Contributor** — Merged PR on Cal.com (30k+ ★), a large-scale TypeScript/Next.js scheduling platform used globally
- **Hackathon Finalist** — Top 10 of 150 participants for AI Image Detection project at university-level competition
- **5x Team Lead** — Led teams of 6–7 members across multiple end-to-end project builds (Robotic Arm, Plant Surveillance, and others)
- **LeetCode** — 262+ problems solved | 77-day streak | consistent algorithmic practice alongside project and academic commitments
- **Volunteer** — Bakul Foundation (literacy & community development) and SOA Jaago Club (social awareness, student outreach)
- **Cricket** — Participated in Box Cricket League (BCL) — ITER, SOA University (Season 2 & Season 4)