Jyatin Kumar Singh

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TECHNICAL SKILLS

Languages: JavaScript (ES6+), TypeScript, Java, C++, Python, SQL
Frontend: React.js, Next.js, Redux Toolkit, Tailwind CSS
Backend: Node.js, Express.js, REST APIs, JWT authentication
Databases & AI: MongoDB, PostgreSQL, Redis, RAG, Gemini API, embeddings, vector search
Testing & Tools: Jest, React Testing Library, Git, GitHub, Docker

PROFESSIONAL EXPERIENCE

Software Development Engineer Intern | KaHo Technologies | GitHub *Sep 2026 – Present*

- Halved Parent App form-submission failures from **20% to 10%** by implementing input validation and structured error handling for incomplete submissions.
- Shipped **5+ production features and fixes**, including verification forms and real-time notifications, for the Parent App.
- Developing face-based photo search to help parents locate photos featuring a selected person across image galleries.

Tech Stack: React.js, Next.js, TypeScript, JavaScript, REST APIs

Software Engineer Intern | Tata Steel Ltd. | GitHub | Internship Certificate *Jun 2026 – Jul 2026*

- Built and deployed **SteelCare PMMS**, a full-stack preventive-maintenance system that centralizes maintenance records and streamlines shop-floor workflows.
- Reduced notification API response time from approximately **6 seconds to under 50 ms** by moving email dispatch off the synchronous request path.
- Developed JWT-secured REST APIs and CSV export functionality for maintenance-data retrieval and reporting.

Tech Stack: MongoDB, Express.js, React.js, Node.js, JWT

PROJECTS

KiranaWala | AI-Powered Hyperlocal Grocery Marketplace Live Demo | GitHub

- Built a MERN-based grocery marketplace with **80+ products**, incorporating feedback from **5 local store owners** to validate the concept.
- Implemented Razorpay signature verification and **HMAC-SHA256 webhook validation** to verify payment events and prevent duplicate processing.
- Integrated an AI-powered basket builder that converts natural-language grocery lists into structured carts, alongside demand prediction for inventory planning.

Tech Stack: MERN Stack, Razorpay, Jest

AskPDF | AI-Powered Conversational Document Assistant Live Demo | GitHub

- Designed a **5-stage RAG pipeline** for PDF question answering, supporting documents up to **20 MB** with page-level citations linked to an in-app PDF viewer.
- Implemented asynchronous document processing using **Redis BRPOP workers**, HTTP 202 responses, job tracking, and stale-job cleanup to decouple ingestion from API requests.
- Tuned retrieval with a **0.7 cosine-similarity threshold**, filtering low-relevance passages before generation to improve document grounding.

Tech Stack: React, TypeScript, Node.js, Express, MongoDB, Redis, Gemini API

VoxShield | AI Voice Deepfake Detection & Audio Forensics Live Demo | GitHub

- Developed a full-stack audio-forensics platform for file-based deepfake analysis over REST APIs and live microphone inference over WebSockets.
- Designed a multi-scale CNN with parallel convolution branches (kernel sizes 5, 11, 21) for **16 kHz raw-waveform audio**.
- Built a forensic dashboard with waveform visualization, **64-band log-Mel spectrograms**, and five acoustic descriptors; repository-reported evaluation includes **96.42% accuracy and 0.9892 AUC across 4,850 samples**.

Tech Stack: PyTorch, FastAPI, React, TypeScript, WebSockets

OPEN-SOURCE CONTRIBUTIONS (Merged PRs)

- **OpenStory:** Improved workflow failure messages by removing internal child-workflow wrappers and surfacing actionable failure reasons. PR #2016
- **OpenStory:** Added sequence-location-to-library support with authorization checks, React Query cache invalidation, and test coverage. PR #2019
- **Speech Dispatcher:** Added an Edge TTS generic-output module with multilingual voice support. PR #1110
- **Shep AI:** Redesigned fleet-status bar placement in the Control Center and added interaction coverage. PR #891
- **Infisical:** Improved secret-scanning error handling with credential redaction and GitLab host validation. PR #8471

ACHIEVEMENTS

- **SMART CITY 2030:** International Semi-Finalist, III International Student and Young Scientist Project Competition on sustainable urban development. Certificate
- **Research Paper:** Authored and submitted a research paper on an AI digital twin for Bengaluru water stress. Paper
- **TRINETRA Hackathon 2025:** Won **2nd place** with FixMyWay, an AI-powered civic issue reporting app, among **600+ student registrations**. Certificate | GitHub
- **Problem Solving:** Solved **400+ DSA problems** on LeetCode and GeeksforGeeks; **5-Star Gold in C++** on HackerRank.

EDUCATION

Lovely Professional University *Aug 2024 – Present*
B.Tech. in Computer Science and Engineering **CGPA: 8.04**

CERTIFICATION

Oracle Cloud Infrastructure 2025 Certified AI Foundations Associate Credential