

# BIDYA BHUSHAN NANDA

Full-Stack Engineer | AI/ML & GenAI Integration — React Native · TypeScript · Node.js · Python  
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Second-year Electronics undergraduate building health-tech products in React Native and Node.js, with hands-on GenAI integration and embedded-systems work alongside it. Comfortable moving between application code, model-API integration, and hardware — particularly drawn to forward-deployed engineering, where the job is sitting with the actual system and users rather than working purely in the abstract. Looking for full-stack / AI-ML internships.

## SKILLS

**Core (built and debugged in production code):** TypeScript, React Native / Expo, Node.js, PostgreSQL

**Working knowledge (shipped features / working builds with):** Express, Prisma, Firebase Auth, Supabase (RLS, storage policies), Docker Compose, Git, REST APIs, Gemini API, EAS Build, Python, C++

**Familiar (read, run, and configured, not authored):** NestJS, Redis, Three.js

## AI / ML

- GenAI document extraction (Gemini API): built a pipeline that scans handwritten documents and outputs structured JSON records with fields populated directly from the scan — part of HOSHOCARE's review-before-save extraction flow.
- Structured-output prompting: schema-constrained prompts to get reliable JSON from an LLM rather than free-text output; debugged a case where an under-specified schema caused the model to return empty objects.

## EMBEDDED SYSTEMS

- Programmed Arduino, ESP32, and Raspberry Pi 3B (Python + C++) to build a working QR-code scanner — camera/sensor interfacing and decode logic across three different microcontroller and SBC platforms.

## PROJECTS

### HOSHOCARE — Health Records Platform *(mobile app · API · web app · marketing site)*

*Confidential company project — no public repo; happy to walk through the code and architecture directly.*

- **Mobile app (flagship, pre-pilot):** React Native / Expo SDK 56, ~19 screens. AI-assisted extraction, including handwritten documents, with a review-before-save flow and permanent record locking.
- **REST API:** Node.js, Express, Prisma, PostgreSQL. Token auth, file uploads, and a document-extraction pipeline with retry handling.
- **Web app:** Supabase / PostgreSQL. Row-level security enforced at the database; verified so one user's storage and records are unreachable to another.
- **Marketing site (live):** Three.js, WebGL, Lenis. Eight-page scroll-driven site; its design system carried over into the app.
- **Debugging highlight:** diagnosed a silent auth failure caused by a breaking library update (token moved a level deeper in the response object) and a file-upload failure caused by Expo's fetch polyfill silently mishandling multipart form data.

### IoT QR-Code Scanner — Arduino, ESP32, Raspberry Pi 3B, Python, C++

- Built and programmed a functioning QR-code scanner across three hardware platforms — Arduino and ESP32 in C++, Raspberry Pi 3B in Python — covering camera capture, decode, and hardware I/O.

### Personal Portfolio Website — Next.js 16, TypeScript, Tailwind v4

- Built with Base UI, Motion, and custom canvas/WebGL components; documented design system covering typography, color, and motion rules.
- *Deployment pipeline (CI/CD, cloud hosting) in progress.*

## EDUCATION

**B.Tech, Electronics Engineering** — Maharaja Agrasen Institute of Technology (MAIT), Delhi

Expected graduation: 2029