



Aryan Trivedi

Roll No.: 2024UG1018

B. Tech

Computer Science and Engineering

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Education

Indian Institute of Information Technology Ranchi

Aug 2024 – Jul 2028 (Expected)

Bachelor of Technology in Computer Science and Engineering

CGPA : 9.13

Experience

Navicon Infraprojects Pvt. Ltd.

Sep 2025 – Present

Software Engineering Intern

Remote (India)

- Shipped **Bautech**, a **cross-platform construction ERP** in **Flutter** for inventory, finance, and project management, adopted by **20+ on-site staff** across **4+ roles**; delivered **6+ modules** end-to-end in **Agile**.
- Architected backend services on **Supabase and PostgreSQL** with **JWT auth** and real-time sync; evolved RBAC into **per-site roles** with server-side ownership checks and made ledger writes **atomic**, removing manual reconciliation.
- Optimized **5+ normalized PostgreSQL schemas** with composite indexes, **cutting average query time by 30%**, and **cut login latency by 63%** (960 ms → 350 ms) by parallelizing account lookups and batching the company fetch into login.

Palisadoes Foundation

Jun 2025 – Aug 2025

Open Source Contributor – Talawa Admin

Remote

- Authored **15+ unit and integration tests** in **Vitest** with **React Testing Library** and merged **3 PRs** into **Talawa Admin** (TypeScript + React), reaching **full line and branch coverage** on the modules tested.
- Covered **5+ previously untested edge cases** in multi-path conditional logic, hardening the suite against regressions.

Projects

Vibez – Live Social Music Rooms

Sep 2026

Tools: Flutter, NestJS, TypeScript, PostgreSQL, Socket.IO, gRPC, Docker

- Built a **real-time social music platform** where listeners join DJ-hosted public or invite-only rooms and hear the **same track in sync**, pairing a **Flutter client** (Riverpod, just_audio) with a **NestJS + TypeScript API**.
- Engineered a **Socket.IO WebSocket gateway** exposing **15+ room events** – queue mutations, song requests, DJ rotation, live chat – with server-authoritative playback state keeping clients within **~200 ms** of each other.
- Decoupled the music catalog into a **Python gRPC microservice** over **Protocol Buffers** with caching; modeled **8 TypeORM entities** on **PostgreSQL**, secured the API with **JWT sessions**, bcrypt and rate limiting, and shipped it **Dockerized** via **GitHub Actions**.

The Archive – Rich-Text Blogging Platform

Jan 2026

Tools: TypeScript, React, Express, PostgreSQL, Multer

- Developed a **full-stack publishing platform** with a rich-text editor and **REST APIs** on Express; designed a compact **JSON content schema** preserving poetry line breaks and inline images/links.
- Built an **image upload pipeline** with MIME-type and size validation, server-side resizing, versioned object storage, and CDN-backed delivery, achieving **sub-200ms image load times**.
- Implemented **secure authentication** with short-lived JWTs, rotating refresh tokens with server-side revocation, and **bcrypt-salted hashing**; mitigated CSRF with SameSite cookies and XSS via DOMPurify.

Synapse – AI Knowledge Blueprinting Platform

Jun 2025

Tools: Next.js, TypeScript, React Flow, Gemini API, Serper API

- Engineered **meta-prompting pipelines with the Gemini API** to generate hierarchical knowledge graphs, achieving **90%+ valid JSON output** through schema-constrained prompts.
- Implemented **React Flow** for interactive editing of **100+ node** blueprints; automated background research via the **Serper API** to enrich each node with sourced web context.

Technical Skills

Languages: TypeScript, JavaScript, Dart, Python, C++, SQL, Java

Frameworks & Libraries: Flutter, Riverpod, React.js, Next.js, Node.js, NestJS, Express.js, Tailwind CSS

Databases & Cloud: PostgreSQL, Supabase, Firebase, MongoDB, TypeORM, Vercel, Render, AWS

Tools & Protocols: Git, GitHub Actions (CI/CD), Docker, Postman, Vitest, Jest, REST, gRPC, WebSockets

Coursework: DSA, Operating Systems, DBMS, OOP, Computer Networks

Achievements

- **Competitive Programming – Knight on LeetCode** (max rating 1854); **3-star on CodeChef** (max rating 1643); **500+ problems** solved across platforms.
- **GSSoC 2025** – Ranked **53** out of **8000+** contributors in GirlScript Summer of Code.
- **Naukri Campus Engineers Ring of Honour 2025** – Secured **AIR 34** among participants from **IITs, NITs, and IIITs** in coding and CS fundamentals.