AYUSH SHARMA

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TECHNICAL SKILLS

Primary: C++, Data Structures, Algorithms, Object-Oriented Programming, Competitive Programming, SQL
Secondary: TypeScript, JavaScript, Next.js, Node.js, PostgreSQL, REST API design, relational schema design, transactions and concurrency control
Other: Git, GitHub, Linux, Docker, problem solving, complexity analysis, debugging

PROJECTS

ALFRED — AI Software Delivery Platform https://alfred.ayushlabs.tech https://github.com/allesko64/alfred

- Built ALFRED, a web app that turns a feature request into a spec and task board, then AI-reviews the pull request against that spec. Live in production.
- Modeled the feature lifecycle as a 15-state Postgres enum across 22 tables and 21 migrations, keeping invalid states impossible at the database level.
- Made credit spend and feature shipping race-safe by pushing both guards into the UPDATE's WHERE clause instead of a pre-read check, so two concurrent requests can never both pass the same check.
- Shipped 76 API procedures behind workspace-membership middleware backed by a two-tier in-process→Redis role cache.
- Indexed connected codebases as vector embeddings for retrieval-grounded review, chunking large diffs and ranking by similarity to stay inside a fixed prompt budget.

Git Lingo — Interactive Git Learning Platform https://gitlingo.ayushlabs.tech https://github.com/allesko64/gitlingo

- Built Git Lingo, a browser platform that teaches git by having learners type real commands and watch files move across four zones — working directory, staging, local repo and remote. Live with 100+ learners.
- Wrote a custom in-memory git engine in TypeScript as pure functions, one per command, instead of wrapping real git or isomorphic-git, so every command's effect on the four zones is fully deterministic.
- Designed 14 levels across three chapters — basics, undoing changes, and working with a remote — each unlocking the next, with typed hints and plain-language errors instead of penalising wrong commands.
- Built the terminal interface itself from scratch in React rather than using xterm.js, with a custom on-screen key bar so mobile users can type into it without ever auto-running a command.

Dossier — Form Builder and Data Collection Platform https://dossier.ayushlabs.tech https://github.com/allesko64/form-builder-saas

- A web app that lets anyone build a custom form, collect responses from the public, and export the data as CSV. Live in production and handling real submissions.
- Engineered for correctness under concurrent load — rate limiting, idempotent writes, and ACID transactions so a partial failure never leaves inconsistent state.
- Deployed and maintain the whole production stack myself on a Linux server — Nginx, TLS and process management.
- Built a dynamic schema engine so one codebase handles any form structure without custom code per use case, with validation enforced at the API boundary rather than only in the UI.

EDUCATION

Bachelor of Engineering in Computer Science
MVJ College of Engineering, Bengaluru | CGPA: 8.7 / 10 | Expected May 2027

ACHIEVEMENTS

- 3rd place, ChaiCode Hackathon (300+ participants) — designed and delivered a working full-stack system with a team inside a fixed deadline.
- Codeforces 1311 (Pupil) — solved 400+ problems in C++ across Codeforces, CodeChef, AtCoder and CSES. https://codeforces.com/profile/allesko_64