

Rajnish Kumar

+91-7987296702

rajnishk14102@gmail.com

LinkedIn

GitHub

LeetCode

EDUCATION

Manipal University Jaipur

Bachelor of Technology - Information Technology

August 2023 - June 2027

CGPA: 9.21

RELEVANT COURSEWORK

- Data Structures & Algorithms
- Database Management
- Computer Networks
- Operating Systems
- Object-Oriented Programming
- Design and Analysis of Algorithms

PROJECTS

Distributed Background Job Queue

[GitHub](#)

- Built a PostgreSQL-backed background job queue in Go with separate HTTP API and worker binaries, eliminating the need for an external message broker.
- Implemented transactional job claiming using `SELECT ... FOR UPDATE SKIP LOCKED`, enabling concurrent workers to safely claim distinct pending jobs.
- Designed a pluggable handler registry with attempt tracking, scheduled retries with linear backoff, configurable maximum attempts, and a terminal dead state for exhausted jobs.
- Exposed `POST /jobs` and `GET /jobs/{id}` endpoints for job submission and status tracking, with SIGINT/SIGTERM-aware worker shutdown using Go contexts.
- **Technologies:** Go, PostgreSQL, pgx, REST APIs

Collaborative Whiteboard — Real-Time Drawing App

[GitHub](#)

- Built a real-time collaborative whiteboard as a Turborepo monorepo with separate Next.js, Express REST API, and WebSocket services backed by PostgreSQL and Prisma.
- Secured HTTP and WebSocket workflows using JWT authentication, with room-level authorization, admin-controlled collaborator membership, and shared Zod schemas for validating drawing-state payloads.
- Synchronized canvas state through room-scoped WebSocket broadcasts and persisted it using one-second debounced Prisma upserts, avoiding a database write for every drawing update.
- **Technologies:** Next.js, TypeScript, Node.js, Express.js, WebSocket (ws), PostgreSQL, Prisma, Turborepo

IdeaLog — Full-Stack Link Management App

[GitHub](#)

- Built a full-stack link-management application with automatic URL-based content classification and filtering across multiple content types.
- Implemented secure authentication using bcrypt password hashing and JWT-based identity, with custom Express middleware enforcing access to user-specific API routes.
- Modeled users, saved content, and sharing records using MongoDB and Mongoose, with ObjectId-based relationships and unique indexes.
- Developed revocable, read-only collection sharing through unique per-user share identifiers, allowing public access without exposing account credentials.
- **Technologies:** React, TypeScript, Node.js, Express.js, MongoDB, Mongoose, JWT, bcrypt, Tailwind CSS

TECHNICAL SKILLS

Languages: Go, C/C++, JavaScript, TypeScript, SQL

Tools & Technologies: Node.js, Express.js, REST APIs, WebSockets, Prisma, Git, GitHub

Databases: PostgreSQL, MongoDB

ACHIEVEMENTS

Solved 400+ data structures and algorithms problems across LeetCode, Codeforces, and GeeksforGeeks.

Named to the Dean's List after maintaining a GPA above 9.0 during the first two semesters.