

Bikash Shaw

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EDUCATION

Chandigarh University

Bachelor of Computer Applications

Chandigarh | 2023 - 2026

CGPA: 7.0

PROJECTS

Ship0 - Build Faster with AI | *Express, Next.js, Inngest, PostgreSQL, Tanstack Query*

[Github](#) | [Live](#)

- Built an AI-powered platform that generates production-ready Next.js applications from natural language prompts, using background job orchestration for reliable async workflows and long-running AI tasks.
- Designed a robust backend architecture with proper error handling, retries, and timeouts for AI jobs (code generation, DB updates, sandbox execution), reducing user wait times and failure states.
- Implemented credit-based rate limiting with database-backed enforcement (rate-limiter-flexible), ensuring backend-side source of truth and preventing frontend abuse.
- Optimized system performance by reducing API payload sizes (1MB → 150-400KB), improving frontend polling efficiency, and adding CI/CD pipelines for automatic backend deployment to a VPS.

Zivelle - E-Commerce App | *Next.js, PostgreSQL, Redis, Docker, Razorpay*

[Github](#) | [Live](#)

- Designed and implemented real-time inventory concurrency control using Prisma interactive transactions, ensuring atomic stock updates, rollback safety, and preventing overselling under simultaneous user checkouts.
- Built a scalable catalog and search system using PostgreSQL Full-Text Search (tsvector, tsquery) with GIN indexing, enabling fast, relevance-ranked queries while supporting pagination and SEO-friendly URL-based searches.
- Optimized frontend and backend performance by introducing server-side pagination, Prisma skip/take, SWR-based data fetching, and parallelized queries with Promise.all, significantly reducing payload size and render latency.
- Improved seller dashboard performance by caching computed metrics with Redis, added a dedicated staging-like development environment on a custom subdomain, and streamlined CI/CD for safer production deployments.

Urbanease - Local Service Providing App | *Next.js, PostgreSQL, Tanstack Query, Express*

[Github](#) | [Live](#)

- Built a multi-role marketplace with Admin, Provider, and Customer flows: admin approval for providers, category and service setup, and review moderation.
- Implemented a booking flow with slot-based availability, before/after image uploads, status tracking (pending → confirmed → in-progress → completed), and rescheduling that checks provider availability.
- Designed a review system with provider flagging, admin hide/restore controls, and automatic account suspension after three violations.
- Introduced caching, pagination, and structured logging across the backend to improve response times, memory use, and API traceability.

DESIGN STUDIES

Low Level Design | *C++, OOP, SOLID, Design Patterns*

[Github](#)

- Maintained a public GitHub repository documenting Low-Level Design (LLD) concepts, covering object-oriented principles and commonly used design patterns such as Strategy, Factory, Observer, and Flyweight.
- Practiced converting real-world problem statements into class diagrams, interfaces, and interaction flows, focusing on clean abstractions and extensible designs.
- Analyzed and applied design trade-offs including inheritance vs composition, interface segregation, and responsibility boundaries while designing backend components.

TECHNICAL SKILLS

Languages: JavaScript, TypeScript

Frontend: Next.js, TanStack Query

Backend: Express, WebSockets, Inngest

Databases: PostgreSQL, Prisma, Redis

DevOps: Docker, Docker Compose, VPS, Vercel

Cloud: AWS (basics)