

Yash Kumar Singh

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EDUCATION

- **National Institute of Technology Durgapur**

B.Tech in Chemical Engineering

2024 – Present

CGPA: 7.5/10

Relevant Coursework: Data Structures & Algorithms, Object-Oriented Programming, Database Management Systems, Operating Systems

TECHNICAL SKILLS

- **Languages:** JavaScript (ES6+), TypeScript, C, C++, Python
- **Frontend:** React.js, Next.js, Tailwind CSS, Redux
- **Backend:** Node.js, Express.js, REST APIs, WebSockets, Socket.io
- **Databases & Authentication:** MongoDB, MySQL, Redis, JWT, NextAuth.js, Clerk
- **Core CS:** Data Structures & Algorithms, OOP, DBMS, Operating Systems
- **DevOps & Tools:** Docker, Git, GitHub, GitHub Actions (CI/CD), Linux, Postman, Vercel, Render, Figma

EXPERIENCE

- **Software Developer Intern (Backend)**, Maity Innovations Pvt. Ltd. (*On-site, Durgapur, India*) Jan 2026
Tech Stack: Node.js, TypeScript, Express.js, MongoDB, MySQL, MongoDB Transactions
 - Collaborated with senior developers on production e-commerce backend in agile development cycles.
 - Engineered cart and coupon engine handling 10+ validation rules and inventory consistency checks.
 - Implemented MongoDB transactions to ensure atomic coupon redemption, eliminating duplicate usage.
 - Developed and tested 20+ RESTful APIs and resolved critical auth bugs reducing 500 errors by ~ 40%.
- **Full Stack Developer Intern**, Techxica Technology Pvt. Ltd. (*Remote*) Nov 2025 – Jan 2026
Tech Stack: React.js, TypeScript, Node.js, MongoDB, Tailwind CSS
 - Built product management system managing 40+ products with admin dashboard and Razorpay integration.
 - Redesigned company website improving responsiveness and reducing average page load time by ~ 25%.
 - Resolved payment gateway issues ensuring reliable transactions and 100% successful webhook verification.
 - Optimized database queries and API responses, improving overall application performance by ~ 20%.

PROJECTS

- **BudgetTracker AI (Full-Stack Application)**

(Live Demo | GitHub Repo)

Tech Stack: Next.js 14 (TypeScript), MongoDB, Clerk Auth, OpenRouter API

- Built LLM-powered expense categorization across 6+ categories, reducing manual entry by ~ 90%.
 - Implemented secure authentication, protected APIs, and type-safe backend endpoints using Clerk.
 - Optimized MongoDB access and delivered Chart.js analytics (bar/pie) for personalized spending insights.
- **Expense Splitter App (Real-Time System)** (Live Demo | GitHub Repo)

Tech Stack: React.js, Node.js, Express.js, MongoDB, Socket.io, JWT

- Developed real-time expense settlement platform supporting 30+ concurrent groups with < 100ms latency.
- Built secure REST APIs with JWT authentication and implemented flexible expense-splitting logic.
- Optimized client-side routing with lazy loading, reducing initial bundle size and load time by ~ 30%.

- **LRU Cache Implementation (DSA + Low-Level Design)**

(GitHub Repo)

Tech Stack: C++, STL, Hash Maps, Doubly Linked Lists

- Implemented LRU cache with **O(1)** get and put operations using custom DLL.
- Designed eviction policy simulating cache behavior in databases and operating systems.
- Applied OOP principles with encapsulation and efficient memory management.

ACHIEVEMENTS

- **Competitive Programming:** Solved **200+** LeetCode problems across data structures and algorithms; achieved **1300+** rating on CodeChef.
- **GitHub Activity:** Maintained **500+** GitHub contributions with consistent coding streak, including a comprehensive 30-day C++ OOP/STL practice series.
- **Hackathon Recognition:** Advanced to college finals at **Smart India Hackathon 2025** by developing disaster response drone **dashboard** with real-time thermal imaging and GPS integration.