Yash Kumar Singh

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EDUCATION

- **National Institute of Technology Durgapur** — 2024 – *Present*
  B.Tech in Chemical Engineering — *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 $\sim 40\%$.

- **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 $\sim 25\%$.
  - Resolved **payment gateway** issues ensuring **reliable transactions** and 100% successful **webhook** verification.
  - Optimized **database queries** and **API responses**, improving overall application performance by $\sim 20\%$.

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 $\sim 90\%$.
  - 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 $\sim 30\%$.

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

  Tech Stack: C++, STL, Unordered Map, Doubly Linked List

  - Implemented LRU cache with **O(1)** average get and put operations **using STL**.
  - Used **unordered_map** and **doubly linked list** for constant-time key access.
  - Designed eviction logic simulating **cache** behavior in real **memory systems**.

ACHIEVEMENTS

- Solved **200+ LeetCode problems** across core data structures and algorithms.
- Earned **100+ Days LeetCode Badge** through consistent daily problem solving.
- Achieved **1300+ CodeChef rating** through regular competitive programming practice.
- Maintained **600+ GitHub commits** across projects with consistent activity.
- Participated in **Smart India Hackathon 2025**, building disaster response drone dashboard with GPS.