

Saurabh Kumar Singh

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Education

Motilal Nehru National Institute of Technology Allahabad, Prayagraj <i>Bachelor of Technology, Computer Science and Engineering</i>	2023-2027 CPI : 8.57
G.N. National Public School <i>Board of Intermediate Education (C.B.S.E.)</i>	2022 Percentage: 95.4
St. Thomas School <i>Board of Secondary Education (I.C.S.E.)</i>	2020 Percentage: 96.6

Projects

ScholarAI – *AI-powered academic research and writing assistant* [\[GitHub\]](#) [\[Live Demo\]](#) **2026**

- **Tech Stack:** Next.js, Spring Boot, FastAPI, PostgreSQL (pgvector), Redis, OpenAI API, Shadcn UI, Tailwind CSS.
- Built an AI-powered academic writing SaaS platform for uploading research documents, organizing projects, and generating citation-aware responses using Retrieval-Augmented Generation (RAG).
- Architected a microservice-based system with a Next.js frontend, Spring Boot REST backend, and FastAPI AI service, with Redis caching for embeddings and session management.
- Implemented document ingestion, text chunking, OpenAI embeddings, and pgvector semantic search to deliver grounded answers from uploaded PDF, DOCX, TXT, and Markdown files.
- Secured application access using JWT authentication, Google OAuth2 login, role-based authorization, and CSRF protection.

ProjectHub – *Full-stack team project and task management platform* [\[GitHub\]](#) [\[Live Demo\]](#) **2025**

- **Tech Stack:** React.js, Node.js, Express.js, MongoDB, JWT, Shadcn UI, Tailwind CSS.
- Designed a full-stack project management platform enabling teams to manage projects, tasks, deadlines, comments, status updates, activity logs, and progress tracking in a centralized dashboard.
- Built dynamic workflows for creating projects, assigning tasks and team leads, monitoring due dates, and viewing recent activities, analytics, and real-time project status.
- Implemented JWT authentication, role-based authorization, and protected routes for secure user and admin access.

FixIt – *Hostel and mess complaint management platform for colleges* [\[GitHub\]](#) [\[Live Demo\]](#) **2025**

- **Tech Stack:** React.js, Node.js, Express.js, MongoDB, JWT, Cloudinary, Tailwind CSS.
- Developed a complaint management platform for hostel and mess issue reporting, complaint browsing, Cloudinary-backed media uploads, and resolution tracking.
- Designed role-based student/admin workflows with JWT authentication, complaint assignment, status updates, upvotes/downvotes, and meal ratings for breakfast, lunch, and snacks.
- Engineered a student-centric interface to browse complaints filed by peers and enable authorities to triage and resolve concerned complaints efficiently.

Technical Skills and Interests

Programming Languages: C++, Java, Python, JavaScript, TypeScript, SQL

Web Development: HTML, CSS, React.js, Next.js, Node.js, Express.js, Spring Boot, REST APIs, Tailwind CSS

Databases: PostgreSQL, MongoDB, Redis

AI & Machine Learning: OpenAI API, Embeddings, Retrieval-Augmented Generation (RAG), Vector Search (pgvector)

Developer Tools: Git, GitHub, Docker, Postman

Core Concepts: Data Structures & Algorithms, OOP, DBMS, Operating Systems, System Design, Microservices

Areas of Interest: Full-Stack Web Development, AI-Powered Applications, Backend & System Design

Achievements

- Secured **2nd Place** in the Dry Run Marathon at Avishkar, MNNIT Allahabad (2024).
- Secured a spot in the **Top 10 teams** at Softablitiz, Code Sangam (2023).

Coding Profiles

- Solved over **500** problems across various competitive programming platforms.
- **LeetCode:** [Saurabh_101](#) | **Codeforces:** [Thinking_Saurabh](#)