

# Harsh Mrigank

## Full-Stack Web Developer

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[LinkedIn \(Link\)](#) — [GitHub \(Link\)](#) — [Portfolio \(Link\)](#)

## Summary

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Backend-focused developer with hands-on experience in systems programming and backend application development. Proficient in C++, JavaScript, and SQL, with practical exposure to compiler construction, REST API design, authentication, and database schema design. Experienced in building and deploying backend-first systems using Node.js, PostgreSQL, and modern development tools.

## Education

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**Techno Main Salt Lake (MAKAUT)**, Kolkata

*Aug 2023 – Jul 2027*

B.Tech in Computer Science — CGPA: 7.54 (till 5<sup>th</sup> semester)

**Satyam International School (CBSE)**, Patna

*2021 – 2022*

Class XII (PCM) — 89%

## Technical Skills

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**Languages:** C, C++, JavaScript, SQL

**Backend:** Node.js, Express, REST APIs, JWT Authentication

**Databases:** PostgreSQL

**Frontend:** HTML, CSS, React, Next.js, Tailwind CSS

**Tools & Systems:** Git, GitHub, CMake

**Practices:** REST API Design, Authentication & Authorization, Relational Database Design, Secure Execution

**Coursework:** Data Structures and Algorithms, Object-Oriented Programming, Operating Systems, Database Management Systems

## Projects

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### • HMSCC

[GitHub](#)

*C++, CMake, Node.js, Express, HTML, CSS, JavaScript*

- Designed and implemented a from-scratch compiler for a C-like language, covering lexical analysis, recursive-descent parsing, AST construction, semantic analysis, and C code generation.
- Built a native compiler binary (C++) and integrated it with a Node.js backend, exposing a REST API to compile and execute programs while returning output, errors, and generated C code.
- Implemented semantic validation and secure execution using symbol tables, scope and type checks, structured error reporting, sandboxed temp directories, and timeout-based safeguards.

### • Bahhi Khata

[GitHub](#)

*Node.js, Express, PostgreSQL, JWT, Next.js, Tailwind CSS*

- Developed a backend-first expense tracking system with emphasis on correct API design, authentication, and database ownership over UI abstractions.
- Implemented JWT-based stateless authentication, protected routes, and a normalized PostgreSQL schema with foreign keys, constraints, and joins to ensure data integrity.
- Deployed the backend with environment-based configuration and integrated a minimal frontend to demonstrate real-world deployment, debugging, and production readiness.

## Coding Profiles

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**LeetCode:** Rating 1464 — 150+ problems

**CodeChef:** Competitive

**Codeforces:** Contest participant

## Certifications & Achievements

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- Smart India Hackathon (SIH) — Finalist
- Oracle Cloud Infrastructure — Foundation Certified
- Google Cloud — Skill Boost / Cloud Arcade
- McKinsey & Company — Forward Program