

Saptaparno Chakraborty

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SKILLS

- | | |
|--------------------------------|---|
| • Languages: | C++, C, JavaScript, TypeScript, Java, Python, HTML5, CSS3 |
| • Frameworks/Libraries: | Node.js, Express.js, Tailwind CSS, React.js, Redux |
| • Databases: | MySQL, SQLite, MongoDB, PostgreSQL |
| • Tools/Platforms: | Git, GitHub, Postman, Linux, Docker, AWS |
| • Soft Skills: | Curiosity, Problem-Solving, Discipline, Grit |

PROJECTS

- **WorkshopHub** | [Link](#) Nov' 25 - Feb' 26
 - Designed and implemented **20+ RESTful API endpoints** using **Node.js** and **Express.js** across authentication, workshops, registrations, attendance, feedback, materials, and certificate management.
 - Implemented **JWT-based authentication** and **role-based access control** for **3 user roles** (Admin, Instructor, Participant), using **bcrypt** for secure password hashing and securing **100% of protected routes**.
 - Modeled **7 scalable MongoDB data schemas** using **Mongoose**, defining relationships to support the complete workshop lifecycle.
 - Built end-to-end **backend workflows** spanning workshop creation, registrations, attendance tracking, material distribution, feedback collection, and certificate issuance.
 - Developed a responsive management interface using **React.js** and **Tailwind CSS (Vite)** for role-aware interactions.
 - **Tech:** Node.js, Express.js, MongoDB, Mongoose, React.js, Tailwind CSS, Vite, JWT, bcrypt
- **Priorify** | [Link](#) Jul' 25 - Present
 - Built a **deterministic, priority-driven** CLI task manager in **C++**, supporting **6 core operations** (add, update, delete, list, complete, clear) for **fast local execution**.
 - Implemented priority ordering using **std::priority_queue** with a **custom min-heap comparator**, ensuring tasks are always displayed in ascending priority order.
 - Architected a **heap** → **vector** → **heap rebuild workflow** using **std::vector**, enabling indexed task edits (update/delete/complete) and keeping ordering consistent after mutations.
 - Added **SQLite-based data persistence** with **prepared statements**, ensuring **100% data retention across restarts** and full task lifecycle synchronization.
 - Designed as a **CLI-first alternative to GUI-heavy task managers**, prioritizing **speed and determinism** at the core, with a **planned native Qt-based GUI** built on the same C++ base.
 - **Tech:** C++, Standard Template Library (C++), SQLite, Qt (GUI upcoming)

TRAINING

- **CodeQuest: DSA Summer Bootcamp - From Basics to Brilliance**
(Centre for Professional Enhancement, Lovely Professional University) Jun' 25 - Jul' 25
Data Structures and Algorithms
 - Focused on core and advanced Data Structures & Algorithms.
 - Covered arrays, linked lists, stacks, queues, trees, heaps, graphs, recursion, and dynamic programming.
 - Emphasized algorithmic optimization, problem-solving, and real-world software applications.
 - Included daily hands-on coding, debugging, and complexity analysis sessions.

CERTIFICATES

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| • Computational Theory: Language Principle & Finite Automata Theory (Infosys Springboard) | Aug' 25 |
| • Privacy and Security in Online Social Media (NPTEL) | Apr' 25 |
| • Fundamentals of Network Communication (University of Colorado, Coursera) | Nov' 24 |
| • Introduction to Hardware and Operating Systems (IBM, Coursera) | Sep' 24 |
| • The Bits and Bytes of Computer Networking (Google, Coursera) | Sep' 24 |
| • Responsive Web Design (freeCodeCamp) | Nov' 23 |

ACHIEVEMENTS

- **Leetcode - Solved 100+ Problems** | [Profile Link](#) Dec' 25
- **HackerRank C++ - Gold Badge (5 Stars)** | [Profile Link](#) Nov' 25

EDUCATION

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|---|---|
| • Lovely Professional University
<i>Bachelor of Technology (Computer Science and Engineering)</i> CGPA: 7.64 | Punjab, India
Aug' 23 - Present |
| • Railway H.S. School
<i>Higher Secondary (XII)</i> Percentage: 78% | West Bengal, India
Apr' 22 - Mar' 23 |
| • Railway H.S. School
<i>Secondary (X)</i> Percentage: 89% | West Bengal, India
Apr' 20 - Mar' 21 |