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
- **Databases:** MySQL, SQLite, MongoDB, PostgreSQL
- **Tools/Platforms:** Git, GitHub, Postman
- **Soft Skills:** Curiosity, Problem-Solving, Discipline, Grit

PROJECTS

WorkshopHub | Link   Nov' 25 - Present

- 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

- 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

Lovely Professional University   Punjab, India
Bachelor of Technology (Computer Science and Engineering) **CGPA: 7.64**   *Aug' 23 - Present*

Railway H.S. School   West Bengal, India
Higher Secondary (XII) **Percentage: 78%**   *Apr' 22 - Mar' 23*

Railway H.S. School   West Bengal, India
Secondary (X) **Percentage: 89%**   *Apr' 20 - Mar' 21*