

Alok Kumar Sharma

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SKILLS

| | |
|-------------------------|---|
| Languages: | C++, JavaScript, Python |
| Frameworks: | HTML, Tailwind CSS, ReactJS, NodeJS |
| Tools/Platforms: | MySQL, MongoDB, Version Control, Linux |
| Soft Skills: | Problem-Solving, Logical Reasoning, Team Player, Adaptable. |

INTERNSHIP

Web Developer Intern | [Link](#)

Nov 2025 – Jan 2026

Emertxe Information Technologies – WebStack Academy

- Built and deployed 5+ REST APIs enabling efficient frontend backend of flow modular service architecture.
- Implemented JWT Authentication & hashing, strengthening security preventing unauthorized access
- Integrated Razor pay payment gateway to enable seamless and faster checkout experience.
- Developed reusable backend modules and optimized API response handling for improved performance.

Tech: React (Vite), JavaScript, CSS, Node.js, Express.js, MongoDB, Mongoose, Socket.IO

PROJECTS

Deep Packet Tracker | Multithreaded Inspection Engine | [Link](#)

Feb 2026 – March 2026

- Built a C++ DPI engine parsing raw TCP/IP packets at byte level to classify encrypted HTTPS traffic without decryption.
- Extracted TLS SNI from Client Hello handshakes to identify and classify applications over encrypted traffic.
- Designed multithreaded LB→FP pipeline with consistent five-tuple hashing ensuring flow-state affinity across fast Path threads.
- Implemented flow-level blocking engine tracking full conversations via five-tuple, dropping all packets once a flow is flagged.

Tech: C++17, CMake, pthreads, PCAP, TCP/IP, TLS, Multithreading.

Code Sync - Real-time Collaborative IDE | [Link](#)

Jan 2026 – Feb 2026

- Developed a full-stack collaborative IDE enabling real-time code editing, workspace sharing, and synchronized multi-user collaboration.
- Made low-latency synchronizing using Socket.IO & Monaco Editor support live cursor tracking & instant code updates.
- Handled role-based access control and session management to ensure secure workspace collaboration and controlled permissions.
- Optimized data retrieval and navigation performance through lazy loading, indexed queries, & compressed responses.

Tech: React (Vite), Node.js, Express.js, MongoDB, Socket.IO, Monaco Editor, JWT Authentication.

TRAINING

CodeSmart: Foundations and Data Structures in C++ | LPU (CPE) | [Link](#)

June 2025 – Jul' 2025

- Implemented fundamental data structures including arrays, linked lists, stacks, queues, trees, and hashing to build strong problem-solving foundations.
- Analyzed time and space complexity to select efficient approaches for searching, sorting, and data organization tasks.
- Applied object-oriented programming principles to create modular, reusable, and maintainable program designs.
- Solved structured algorithmic problems to strengthen logical reasoning and optimization thinking.
- Explored recursion, memory management, and pointer usage to improve program execution and resource efficiency.

Tech: C++, Data Structures & Algorithms, OOPs

CERTIFICATES

• NPTEL Industrial Internet of Things (IOT) | IIT KGP | [Link](#)

Nov 2025

• Introduction to Front-End Development (Coursera) | Meta | [Link](#)

July 2025

ACHIEVEMENTS

• Won National Level Hackathon

• Tackled 200+ DSA problems on LeetCode, demonstrating problem-solving dedication. | [Link](#)

Feb 2026

• Earned 4-star C++ rating on HackerRank, showcasing strong programming skills. | [Link](#)

Nov 2025

• Secured 1st Runner-up TantraFiesta'25 Hackathon | IIIT Nagpur | [Link](#)

Oct 2025

EDUCATION

Lovely Professional University

Phagwara, Punjab

Bachelor of Technology - Computer Science and Engineering; **CGPA:6.3**

Aug 2023 – Present

Tender Heart Senior Secondary School

Ranchi, Jharkhand

Intermediate; **Percentage:77.2**

Apr 2022 – Mar 2023

St. Mary's Public School

Giridih, Jharkhand

Matriculation; **Percentage:78**

Apr 2020 – Mar 2021