

Ayush Carpenter

B.Tech CSE, IIIT Kota

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[GitHub](#) [LinkedIn](#) [Portfolio](#) [LeetCode](#)

Education

Indian Institute of Information Technology, Kota

B.Tech in Computer Science and Engineering | CGPA: 7.78/10

Kota, Rajasthan

2023 - 2027 (Expected)

Experience

Gyanama | Frontend Developer Intern

Remote | March 2025 - June 2025

- Developed **15+ reusable, responsive UI components** in **React.js, Next.js, and Tailwind CSS**, adopted across **10 product pages** and cutting duplicated UI code by **40%**, establishing a shared component library for the team.
- Collaborated with senior engineers on **frontend architecture, state management**, and API data flow, standardizing **3+ new feature modules**.
- Integrated **8+ REST API endpoints** using **React Query** for caching, loading, and error states, reducing redundant network calls by **30%**.

Projects

MediCare | [Live Link](#) | [GitHub](#)

Next.js 16, React 19, PostgreSQL, WebRTC, Socket.IO, Redis, Docker

- Architected a full-stack **telemedicine platform** with **JWT authentication and role-based access control across 3 roles** (patient, doctor, admin) covering appointment booking, prescriptions, and consultation history.
- Engineered **peer-to-peer video consultations** with **WebRTC** and a custom **Node.js + Socket.IO** signaling server for SDP/ICE negotiation, using **Redis pub/sub** to synchronize sessions across multiple server instances.
- Containerized the application with **Docker** and integrated **Razorpay payments** and the **Google Gemini API** to power an AI health assistant.

ThreadForge | [Live Link](#) | [GitHub](#)

C++20, CMake, GoogleTest, Google Benchmark, GitHub Actions

- Built a **C++20 task scheduler** with worker-local queues, **work stealing**, and weighted High/Normal/Low priority scheduling.
- Implemented **dependency-aware fan-in/fan-out execution** without blocking workers, alongside **exception-safe futures**, graceful shutdown, and per-worker metrics.
- Validated correctness with **150 CTest checks**, **100,000-task stress workloads**, GCC/Clang sanitizer CI, and **54 Google Benchmark cases** comparing sequential execution and a centralized thread pool.

VersionVista | [Live Link](#) | [GitHub](#)

React.js, Next.js, MongoDB, simple-git

- Built a **Git repository visualizer** in **Next.js and React** that replays commit history as an interactive timeline, parsing and indexing repo metadata with **simple-git**.
- Implemented **file-level and line-level diff analysis** with side-by-side commit comparison, handling repositories of **1,000+ commits** without blocking the UI.
- Designed a dashboard with **commit tree, file explorer, and code viewer**, caching repository data in **MongoDB** to cut analysis time by **60%**.

Technical Skills

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

Frontend: React.js, Next.js, HTML5, CSS3, Tailwind CSS, Redux, Zustand, React Query, Responsive Design

Backend: Node.js, Express.js, REST APIs, WebRTC, Socket.IO, WebSockets, JWT Authentication, Microservices

Databases & ORM: PostgreSQL, MySQL, MongoDB, Redis, Prisma

DevOps & Tools: Docker, Kubernetes, AWS, Git, GitHub, GitHub Actions (CI/CD), Linux, Postman, VS Code

Coursework: Data Structures & Algorithms, OOP, DBMS, Operating Systems, Computer Networks, System Design

Achievements

Odoo Hackathon: Ranked **Top 7 out of 950+ teams (Top 0.7%)** at IIT Gandhinagar.

Competitive Programming: Achieved **LeetCode Knight** with a **1924** rating and finished **Top 500 among 32,000+ participants (Top 1.6%)** in a Biweekly Contest; **CodeChef 3-Star** and **Codeforces Pupil (1380)**.

Data Structures & Algorithms: Solved **1,050+** problems on LeetCode (**850+**) and GeeksforGeeks (**200+**), spanning graphs, dynamic programming, trees, binary search, and greedy algorithms.