Rahul Kumar

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EDUCATION

Degree/Certificate	Institute	Year
B.Tech, Computer Engineering	National Institute of Technology, Kurukshetra	Exp. May, 2026

EXPERIENCE

- **Software Engineering Intern** *May 2025 – Oct 2025*
  Scale AI Remote
  - Optimized and validated AI-generated applications using **React.js, Next.js, and Node.js** as part of **RLHF pipelines**, improving model reasoning accuracy and output reliability.
  - Analyzed machine-generated code to identify and fix logic flaws, security gaps, and edge-case failures to ensure production-grade quality.

PROJECTS

- **Real-Time Chat Application** *May 2025*
  Node.js, Express.js, Socket.io, MongoDB
  - Implemented a **real-time chat system** using **Socket.io** with **event-driven architecture**, enabling **low-latency**, **scalable** room-based message broadcasting under concurrent user load.

- **Shares Portfolio Tracker** *Aug 2025*
  React.js, Node.js, Express.js, MongoDB
  - Built a **full-stack portfolio tracker** with **RESTful APIs** to manage **equity holdings**, compute **real-time valuation**, and aggregate **external market data streams efficiently**.

- **Zerodha-Style Trading Platform Clone** *Sep 2025*
  React.js, Node.js, Express.js, MongoDB, JWT
  - Developed a **trading simulation platform** with **JWT-based authentication**, **transactional order execution**, and **atomic portfolio state updates** across concurrent trading requests.

TECHNICAL SKILLS

- **Languages**: **C/C++**, **Python**, **JavaScript**, **SQL**, **Java**
- **Web & Backend**: **Node.js (Express.js)**, **FastAPI**, **React.js**, **Next.js**, **RESTful APIs**, **Socket.io**
- **Databases**: **PostgreSQL**, **MongoDB**, **Redis**
- **AI & DevOps**: **RAG Pipelines**, **ChromaDB**, **Linux**, **Docker**, **Git/GitHub**
- **Core CS Concepts**: **DSA**, **Operating Systems**, **DBMS**, **Computer Networks**, **OOP**, **Distributed Systems**

HACKATHONS

- **HCL Hackathon – Healthcare Portal** *Offline*
  Backend Engineer Nov 2025
  - Designed a secure and scalable **Node.js + MongoDB backend** with **JWT-based RBAC** and **Socket.io** for real-time patient–provider communication.

- **Smart India Hackathon 2024 – DDoS Mitigation System**
  Finalist (College Level) 2024
  - Built a Layer-7 DDoS mitigation system using **Redis queues** and a **Proof-of-Work** mechanism to filter malicious traffic before server processing.

ACHIEVEMENTS

- **Amazon ML Challenge 2025**: Selected among **Top 100 participants** nationwide and trained on core **machine learning concepts**, model building, and evaluation through structured problem-solving tasks.
- **Flipkart GRID 6.0**: Qualified as a **Semi Finalist** by solving competitive coding problems emphasizing **algorithmic thinking**.
- **Postman API Student Expert**: Earned certification by demonstrating proficiency in **API fundamentals**, REST principles, request validation, and automated testing workflows using Postman.