

Sparsh Tyagi

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EDUCATION

KIET Deemed to be University, Muradnagar, UP 2024 – 2028
B.Tech in Computer Science and Engineering
CGPA: 8.7

Krishna Vidya Niketan Public School, Muradnagar
Class 12th CBSE Board: 92% 2023 – 2024

TECHNICAL SKILLS

Languages: C++, JavaScript, TypeScript
Frameworks & Libraries: React.js, Next.js, Node.js, Express.js, FastAPI, Socket.io, Prisma, Mongoose, Langchain
Databases & Cloud: MongoDB, PostgreSQL, Redis, AWS
Tools: Git, GitHub, Postman, REST APIs

PROJECTS

Rider – Real-Time Ride-Sharing Engine *Node.js, Redis, WebSockets, PostgreSQL — May–June 2026*
GitHub: [Link](#) — Live: [Link](#)

- Designed a high-throughput **real-time ride matchmaking engine** using Node.js (TypeScript) and Express, utilizing a cascading Redis-backed priority queue to route booking requests to nearby drivers.
- Engineered a geo-sharded driver tracking system using Uber’s **H3 spatial index (Resolution 9)** and **Redis Geospatial** queries, reducing lookup latency for active drivers within a 5km radius.
- Implemented a robust **WebSocket communication layer** combined with a **Redis Pub/Sub** message broker, enabling cross-instance live location updates, ETA calculations via OSRM, and state synchronization.
- Built a transactional data model using PostgreSQL and **Prisma ORM**, securing REST API endpoints with custom Clerk authentication middleware and handling atomic trip state transitions.

NeoStream – Scalable OTT Streaming Platform *MERN Stack, Redis, Socket.io, Cloudinary — Nov–Dec 2025*
GitHub: [Link](#) — Live: [Link](#)

- Implemented **optimized video streaming** using Cloudinary for seamless playback and reduced latency.
- Integrated **Redis caching** to improve API response times and handle high-traffic scenarios efficiently.
- Built a secure **Admin Dashboard** for media uploads, movie management, analytics, and role-based JWT auth.
- Developed a real-time **Watch Chat** using Socket.io enabling users to interact while watching content.

Socially – Social Blogging Platform *Next.js, PostgreSQL, Prisma, Clerk — July–August 2025*
GitHub: [Link](#) — Live: [Link](#)

- Built a full-stack social platform with posts, likes, comments, and follows using **Next.js API routes**, **PostgreSQL**, and **Prisma ORM** for scalable data modeling.
- Implemented secure auth and user management via **Clerk** with role-based access and session handling.
- Designed a responsive UI with **Tailwind CSS**, dark/light mode, and dynamic feeds for posts and profiles.

CERTIFICATIONS

- AWS Certified Data Engineer - Associate – [Credential Link](#) May 2026
- AWS Certified Cloud Practitioner – [Credential Link](#) February 2026
- Introduction to Artificial Intelligence – LinkedIn Learning – [Certificate Link](#) August 2025

ACHIEVEMENTS

- Hyperspace Innovation Hackathon – **Top 100 Finalist** (Out of 1500+ Teams) [Link](#)
- Solved **250+** DSA problems on **LeetCode** [Link](#)