

Tanishka Solanki

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Technical Skills

Languages and Databases: C++, Python, JavaScript, TypeScript, HTML, CSS, MongoDB

Frameworks, Tools & Systems: Node.js, Express.js, React.js, Git, Docker, AWS, Data Structures & Algorithms, REST APIs

Projects

Hyperlocal Inventory Synchronization System

Node.js, Express, MongoDB, Socket.IO, Docker

- Built and deployed a **a real-time inventory synchronization system** to keep stock levels consistent across hyperlocal stores.
- Designed **REST APIs with atomic updates** and live synchronization using Socket.IO to prevent overselling and stock mismatches.
- Containerized services with **Docker** for scalable and portable deployment.
- Aims to solve the problem of **inventory mismatch and delays in local supply chains**, helping small retailers reduce losses and improve product availability for customers.

Synapse – Real-Time Collaborative Code Editor

React.js, Node.js, Express.js, Socket.IO, WebRTC, MongoDB, CodeMirror, D3, TailwindCSS

- Built a **real-time collaborative code editor** supporting multiple programming languages with live chat integration to enhance teamwork.
- Implemented an advanced editor locking system with **Socket.IO + WebRTC to prevent conflicts** during simultaneous editing.
- Designed **contribution analysis dashboards using D3 to track participation and project insights**.
- Integrated code compilation and file upload/download with a **scalable Node.js + MongoDB backend**.

Distributed Rate Limiter Service

Node.js, Redis, Docker, Express, REST APIs, Distributed Systems

- Designed and implemented a production-ready Distributed Rate Limiter microservice using Node.js, Express, and Redis.
- Implemented **Fixed Window Counter, Sliding Window Log, and Token Bucket algorithms** for flexible throttling.
- Built API Key system, **custom per-user rules** (100/min, 1000/min, admin unlimited), and **Redis INCR + EXPIRE atomic operations** to ensure consistent distributed limits.
- Structured service with microservice **architecture, Dockerized**, and deployed on cloud for real-world simulation.

Certifications & Awards

- **MongoDB Associate Database Administrator** – *MongoDB*
- **Foundations of Cyber Physical System** – *NPTEL*
- **IBM Cyber Security Analyst** – *IBM*
- **The Bits and Bytes of Computer Networking** – *Google*

Education

Vellore Institute of Technology, Bhopal

B.Tech in Computer Science (Cyber Security & Digital Forensics)

Oct 2022 – Sep 2026

Delhi Public School, Bulandshahr

Higher Secondary Education

April 2019 – Jun 2021

Delhi Public School, Bulandshahr

Secondary Education

Apr 2018 – Mar 2019