

# Tanishka Solanki

tanishkasolanki2003@gmail.com | 9810425756 | [LinkedIn](#) | [GitHub](#)

## Technical Skills

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**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

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### Hyperlocal Inventory Synchronization System

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

- Built and deployed 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 – A Real Time Collaborative Code Editor

*React, CodeMirror, CSS, Node.js, Express, Socket.IO*

- Engineered a **real-time collaborative code editor** leveraging **React, CodeMirror, and Socket.IO**, enabling seamless multi-user code editing.
- Implemented **room-based collaboration with unique session IDs** to ensure secure and scalable user access.
- Developed and deployed a **Node.js + Express backend with Socket.IO** for efficient event handling and code synchronization.
- Integrated an interactive **CodeMirror editor with syntax highlighting and theme customization** for an enhanced developer experience.

### Cleario – A Netting Engine For Financial Settlement

*MongoDB, Express.js, Node.js, React, REST APIs*

- Designed and implemented a **multi-party netting engine** to optimize B2B settlements by reducing thousands of bilateral transactions into minimal transfers.
- Built a **MongoDB + Express** backend with **REST APIs** to manage participants, obligations, and settlement runs.
- Developed a **netting algorithm using balance computation and greedy matching**, reducing transaction volume and liquidity requirements.
- Created **real-time settlement reports** with net positions and proposed transfers for transparent reconciliation.
- Deployed the MVP on **cloud infrastructure with Docker**, enabling scalability and seamless API access.

## Certifications & Awards

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- **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

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**Vellore Institute of Technology, Bhopal**

Oct 2022 – Sep 2026

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

**Delhi Public School, Satna**

Aug 2020 – Jun 2022

*Higher Secondary Education*