

# VAIBHAV UGALE

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<https://vaibhavugale.thesudoer.in>

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## Skills:

**Frontend :** JavaScript, TypeScript, React JS, React Native, Next JS, React Hooks, Redux, RTK, tailwind, MUI

**Backend :** Node.js, Express JS, REST APIs, API Design, NGINX, Mongo, SQL, neo4j

**Other :** Problem solving, Data Structure And Algorithms, Version Control

## Experience:

**Emertech innovations – Frontend Engineer** (Aug-2024 - present)

### BKT tyres:

- BKT-Trace-App
  - Built an **internal traceability system** to track tyre components, mapping which and how many compounds were used in each tyre.
  - Integrated with **infrared PSC scanners** to enable QR code scanning with minimal manual interaction.
  - Developed a **QR code generation module** to produce printable output, integrated with **industrial scanners** for physical output.
  - Implemented a **secure login system** and an **APK auto-update feature** for closed-premise deployment environments.
  - Engineered the system to handle **40,000+ QR prints and scans per day**, ensuring high performance and reliability.
- Dynamic JSON-Driven Template Renderer.
  - Engineered a dynamic, JSON-driven template system in ReactJS to render complex, nested UI structures .
  - Developed dynamic, **data-driven user interfaces** by parsing and rendering JSON data.
  - Designed responsive, scalable UI layouts in **Figma** aligned with product and branding guidelines.

### Apollo tyres:

- EUDR Compliance platform.
  - Build Email reminder feature
  - Developed responsive, pixel-perfect UI based on Figma mockups.

### Emertech innovations:

- EUDR-Compliant Land-Mapping & Deforestation-Monitoring Platform.
  - Built a complete React Native app for farm/plot mapping and compliance tracking.
  - Implemented **2-step verification** for secure user access.
  - Enabled farm/plot creation via polygon mapping with **auto-generated GeoJSON and KML files**.
  - Built algorithm to auto-calculate polygon area in square meters.
  - Developed **point-in-polygon algorithm** for plot overlay validation.

### ADEG :

#### Dispatch Module – Inventory Tracking System .

- Developed the frontend for the dispatch module using ReactJS and TypeScript.
- Integrated QR and barcode scanning for fast, accurate dispatch data capture.
- Implemented **real-time dashboard updates** using **WebSockets**, reflecting scanning activity instantly.
- Enabled end-to-end traceability of dispatched goods back to individual farmers.

## Education:

Smt. Kashibai Navale College of Engineering , Pune - 2020-24

B.E ( Computer Engineering )