VISHAL PATEL

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Education

UIET Kanpur   **Sep. 2019 – May 2023**
B.tech in Computer Science and Engineering

Technical Skills

Languages: TypeScript, JavaScript,Python, C++.
Frontend: React.js, Next.js, Redux Toolkit, Tailwind CSS, Vite, Chart.js.
Backend & APIs: Node.js, Express.js, Hono.js, REST APIs, WebSockets, Socket.IO, MQTT, JWT, Zod.
Databases & Caching: PostgreSQL, MongoDB, Redis, Indexing, Sharding.
Cloud, DevOps & Architecture: AWS, Cloudflare Workers & Pages, Docker, NGINX, PM2, CI/CD, Prometheus, Grafana, Monolith, Microservices, Serverless, Multi-Tenancy, Monorepo (Turborepo).

Experience

Software Engineer — AICAN Pvt Ltd   **May 2023 – Present**
AICAN Optiwise: Complete MSME ERP Solution   *Mumbai, India (Hybrid)*

- Led monolith-to-microservices migration using **Turborepo**, implementing **multi-tenant architecture** and migrating data from **MongoDB** to **PostgreSQL** using **Prisma ORM**, supporting 50+ enterprise clients and reducing deployment time by **60%**.
- Developed custom shared libraries and **DTO packages** for the monorepo, ensuring **end-to-end type safety** across 5+ **microservices** and reducing code duplication by **45%**.
- Built production and inventory modules using the **MERN stack** and **TypeScript**, handling 10,000+ daily transactions and improving workflow efficiency by **30%**.
- Improved service performance by **40%** through **Redis caching**, **PostgreSQL indexing**, and query optimization, reducing average API latency from **800ms to 480ms**.
- Deployed and operated services on **AWS (EC2, S3, IAM)** with **Dockerized workloads**, **NGINX reverse proxy**, **PM2 process management**, and automated **CI/CD pipelines**, improving release reliability and rollback safety.
- Implemented **observability and monitoring** using **Prometheus** and **Grafana**, defining service-level metrics, dashboards, and alerts to improve system visibility and incident response.

AICAN IoT Platform
Real-Time Industrial IoT Monitoring System

- Architected a standalone **real-time IoT MQTT server** integrating **AWS IoT Core** and **WebSocket**, handling 500+ concurrent devices and processing 50,000+ messages per hour with **99.9% uptime**.
- Implemented hierarchical device management (Plant → Machine → Device) using **Socket.IO rooms** for **permission-based real-time broadcasting** to 200+ concurrent users.
- Built a customizable dashboard engine with drag-and-drop widgets using **React**, **Redux Toolkit**, and **React Google Charts** for personalized real-time visualizations.
- Developed an automated alerting system with configurable triggers, delivering 1,000+ daily notifications and reducing incident response time by **70%**.
- Integrated **MQTT**, **Redis** for device-state caching, and **MongoDB** for historical data storage, enabling seamless ERP dashboard integration.

Phoenix Advanced Softwares Pvt Ltd   **Nov 2022 – Apr 2023**
Full Stack Developer (Intern)   *Jaipur, India*

- Built **RESTful APIs** using **Express.js** and **MongoDB**, supporting multiple frontend teams and improving UI performance with **React.js**, resulting in **25% faster page loads**.

Projects

Info Edge — Serverless Blog Platform

- Built a **serverless blog platform** using **Hono.js** on **Cloudflare Workers**, achieving **sub-50ms response times** for read and write operations.
- Designed and published a **custom NPM package** to share validation logic and types between frontend and backend services, improving **code reuse** and **maintainability**.
- **Tech:** TypeScript, Hono.js, Cloudflare Workers/Pages, React.js, Prisma, PostgreSQL, Zod, JWT.
- **Live Demo:** venteury-blogs.pages.dev