

Vipin Singh

Senior Frontend / Full-Stack Engineer

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LinkedIn | Portfolio

Experience

PharmaForceIQ

React / Next.js Developer

Dec 2023 – Present

India

- Developing a **production-grade pharma analytics platform** using **Next.js 15**, **React 19**, **TypeScript**, **Material UI v7**, and **Emotion** with a focus on scalable enterprise UI architecture.
- Built and enhanced **Databricks-powered analytics dashboards**, integrating embedded BI capabilities through the **Databricks AI/BI client** for interactive business reporting and data visualization.
- Implemented complex analytics tables and data-heavy interfaces using **AG Grid**, supporting sorting, filtering, large datasets, and enterprise reporting workflows.
- Implemented **TanStack Query** for server-state management, data fetching, caching, synchronization, and efficient API-driven UI workflows.
- Built complex form workflows using **TanStack Form** with strongly typed data handling and validation patterns.
- Implemented fine-grained authorization using **CASL** for role- and permission-based access control across application features.
- Applied **Zod schema validation** and **TypeScript strict typing** to improve runtime validation, compile-time safety, and reliability of data-driven workflows.
- Implemented and maintained **global dashboard filters** and **cross-dashboard filtering workflows** to provide consistent analytics experiences across multiple modules.
- Integrated **JWT-based authentication** and **Axios API communication** for secure frontend-to-backend data access.
- Maintained frontend quality through **ESLint**, **Prettier**, **Husky**, **lint-staged**, **Jest**, and **React Testing Library**, enforcing coding standards and automated testing practices.
- Worked within an enterprise **GitLab-based development and release workflow**, collaborating with product, backend, QA, and cross-functional teams to deliver production features.
- Diagnosed and resolved **frontend performance**, **state-management**, **data-rendering**, and **UI consistency issues** across multiple analytics modules.

Wipro

Project Engineer – React Developer

Oct 2021 – Dec 2023

Pune, India

IBM TbiOnBoarding Web Application

React.js, Carbon Design System, REST APIs

- Developed an enterprise web application using **React.js** and **IBM Carbon Design System**, integrating REST APIs for application workflows.
- Led process improvements that **reduced project review cycles by 25%**, improving development and delivery efficiency.
- Developed **reusable UI components** and **modular frontend structures** to improve consistency and maintainability.
- Collaborated with **cross-functional teams** on application integration, feature development, debugging, and production delivery.
- Contributed to **UI and design discussions**, translating business requirements into intuitive and maintainable interfaces.
- Received **client recognition and management awards** for project contributions.

Starbucks Web Applications

React.js, Carbon Design System, REST APIs

- Supported multiple **React.js-based enterprise applications**, implementing enhancements, bug fixes, and production support.
- Developed selected applications **from scratch** and delivered new features based on evolving business requirements.
- Built interfaces using **React.js**, **Carbon Design System**, and **Starbucks component libraries**.
- Used **GitHub**, **Jira**, and **service dashboards** for source control, issue tracking, collaboration, and production support.

Pylons Technologies

React.js Developer – Intern

Jan 2020 – Jan 2021

Durg, India

- Developed a **React.js web application**, contributing to a reported **20% reduction in load time** through frontend improvements.

- Implemented **responsive design techniques**, contributing to a reported **15% increase in user engagement**.
- Collaborated with UI/UX designers to convert **design mockups into interactive, responsive interfaces**.
- Performed **cross-browser testing, debugging, and troubleshooting** across browsers and devices.

Freelance

Web Developer

Jan 2020 – May 2021

Durg, India

- Delivered client web projects by translating **business requirements into responsive production websites**.
- Developed custom web interfaces using **HTML5, CSS3, JavaScript, and Bootstrap**.
- Managed **client communication, requirement analysis, development, testing, debugging, and delivery**.

Projects

GrowPulse AI – Business Revenue Intelligence Platform

Personal / External Project

- Architected and developed a **full-stack Business Revenue Intelligence platform** for Indian small businesses such as cafés, retail stores, and salons, converting anonymized transaction patterns into actionable growth insights.
- Designed the product around a **deterministic-analytics-first, AI-explains-second architecture**: health scores, trends, opportunities, and business metrics are computed by deterministic analytics rules first, while the LLM only explains verified results without generating or inventing metrics.
- Built **two clients sharing one backend**: a **Next.js 16 App Router web application** and a **React Native / Expo mobile application** for Android and iOS with feature parity across platforms.
- Designed the backend using **Supabase PostgreSQL and Drizzle ORM**, with **Supabase Auth** supporting cookie-based web sessions and Bearer-token authentication for mobile clients.
- Implemented a **multi-tenant business architecture** with application-layer authorization as the primary enforcement mechanism and PostgreSQL **Row Level Security (RLS)** as defense-in-depth.
- Implemented a resilient **AI provider strategy using self-hosted Ollama** as the primary LLM generator with a deterministic rule-based fallback, allowing AI functionality to degrade gracefully when the LLM service is unavailable.
- Built **context-aware business recommendations** based on business type and geographic location, using device GPS and reverse geocoding to classify businesses across rural and Tier-1–4 locations and adapt pricing thresholds and promotional strategies.
- Implemented complete **English/Hindi bilingual support** using a lightweight custom i18n system across web and mobile, including AI-generated content with casual, natural Hindi targeted at small-business owners.
- Diagnosed and fixed a **stale AI insight caching bug** where previously generated content remained in the wrong language after language changes; resolved through query invalidation and server-side regeneration when cached content does not match the requested language.
- Diagnosed and fixed a **mobile cold-launch routing issue** caused by missing index routes within protected Expo Router route groups.
- Implemented mobile-specific engineering using **Expo managed workflow, EAS Build, Expo Router protected routes, Reanimated, NativeWind, and expo-location**.
- Applied a **design-system-driven UI architecture** with token-based typography and color rules, platform-specific branding, and low-friction transaction entry including a one-field quick-add cash flow and simplified FAB-based navigation.

Technologies: Next.js 16, React 19, TypeScript, React Native, Expo, Expo Router, EAS Build, Supabase, PostgreSQL, Drizzle ORM, REST APIs, Ollama, LLM, AI, RLS, NativeWind, Reanimated, GPS, Reverse Geocoding, i18n

Decorcity Vision – Full-Stack Interior Design Platform

Personal / External Project

- Redesigned and rebuilt a **production business-critical website** for an interior design studio using **Next.js 14/15 App Router, TypeScript, Tailwind CSS, and Framer Motion**.
- Designed and implemented a **headless CMS architecture using Sanity.io** with approximately 16 content schemas covering Hero, Site Settings, Services, Team, Projects, Testimonials, FAQs, Job Openings, and other business content.
- Converted a hard-coded website into a **CMS-driven platform** that allows non-technical business owners to manage website content without modifying source code.
- Implemented **fallback-safe rendering** across CMS-driven components so missing content or temporary Sanity availability issues gracefully fall back to sensible static defaults instead of rendering blank or broken sections.
- Implemented **real-time content updates using Sanity Live Content API**, including `defineLive` and `sanityFetch`, with ISR revalidation as a resilience and caching safety net.
- Diagnosed and removed a **5.7MB hotlinked hero video** that negatively affected Lighthouse performance; self-hosted and optimized media and introduced AVIF/WebP image formats.
- Improved website quality to achieve **100/100 Lighthouse scores in Accessibility, Best Practices, and SEO** after performance and accessibility remediation.

- Performed a **WCAG color-contrast audit** by calculating actual luminance ratios and introducing dedicated accessible design tokens; also fixed missing form-label associations.
- Implemented **JSON-LD LocalBusiness structured data**, dynamic sitemap, robots configuration, web manifest, and a **150+ keyword SEO strategy** targeting Bhilai, Durg, Rajnandgaon, Raipur, and surrounding service markets.
- Diagnosed and repaired a **production CMS data-integrity issue involving duplicate singleton documents**, including development and safe execution of a Sanity migration script.
- Diagnosed and fixed **responsive layout and flexbox overflow issues** by identifying root CSS sizing behavior and replacing brittle fixed-width layouts with fluid sizing strategies.
- Authored a **30+ page CMS handover guide** using a headless-browser HTML-to-PDF workflow to enable non-technical business owners to manage the platform independently.

Technologies: Next.js 15, React, TypeScript, Tailwind CSS, Framer Motion, Sanity.io, GROQ, Sanity Live Content API, ISR, SEO, JSON-LD, Responsive Design, Accessibility, WCAG

WeWake Indigreen – Headless CMS Web Platform

Personal / External Project

- Architected a **full-stack JAMstack application** using **Next.js 16, React 19, TypeScript, App Router, and Sanity CMS**, separating content management from frontend presentation.
- Integrated **next-sanity and GROQ queries** to retrieve structured CMS content and provide a flexible content-driven application architecture.
- Built a **type-safe content layer** using TypeScript definitions for Sanity documents with a dedicated fallback data layer for graceful degradation when CMS content is unavailable.
- Implemented **Portable Text rendering** using `@portabletext/react` for rich CMS-driven content.
- Combined **Material UI v9, Tailwind CSS v4, and Framer Motion** to build a modern component-driven interface with responsive layouts and animations.
- Implemented **responsive image optimization** using Sanity image transformations and CDN-based image delivery.
- Structured the application using a **feature-oriented component architecture**, keeping CMS schemas, queries, types, and UI implementation logically organized.
- Added **multimedia content support** through YouTube integration and reusable content components.
- Maintained documented architecture through a dedicated **system design document**, enabling clearer technical planning and maintainability.
- Established modern development tooling with **TypeScript, ESLint 9, Prettier, and independently deployable frontend and CMS packages**.

Technologies: Next.js 16, React 19, TypeScript, Sanity.io, GROQ, next-sanity, Material UI, Tailwind CSS, Framer Motion, Portable Text, Sanity Image CDN, ESLint, Prettier

Technical Skills

Languages: TypeScript, JavaScript, SQL, HTML5, CSS3

Frontend: React.js, Next.js, React 19, React Native, Expo, Redux, React Hooks, React Context API, Material UI (MUI), Tailwind CSS, NativeWind, Styled Components, Bootstrap

Frontend Architecture: Frontend Architecture, Component Architecture, Reusable Components, Design Systems, State Management, Server-Side Rendering (SSR), Static Site Generation (SSG), App Router, Responsive Design, Performance Optimization, Data Visualization, Analytics Dashboards

Data & Analytics: Databricks, Databricks AI/BI, Databricks Dashboards, Databricks SQL, SQL, AG Grid, Data Analytics, Business Intelligence, Analytics Workflows

Backend & APIs: Node.js, Express.js, REST APIs, API Integration, JWT Authentication, Axios, Supabase

Databases & ORM: PostgreSQL, MongoDB, Supabase PostgreSQL, Drizzle ORM

AI / GenAI: Generative AI, LLM Applications, AI Agents, Ollama, AI-powered Analytics, Natural Language Interfaces, Deterministic Analytics, AI Fallback Architecture

CMS / Web Platform: Sanity.io, GROQ, Headless CMS, Sanity Live Content API, ISR, Portable Text, JSON-LD, SEO, Structured Data

Mobile: React Native, Expo, Expo Router, EAS Build, Reanimated, NativeWind, Device Location APIs

Security / Authorization: CASL, Role-Based Access Control (RBAC), Attribute-Based Access Control (ABAC), PostgreSQL RLS, Application-Layer Authorization

Testing / Quality: Jest, React Testing Library, ESLint, Prettier, Husky, lint-staged, TypeScript Strict Mode, Cross-Browser Testing, Debugging

Tools / Workflow: Git, GitHub, GitLab, Jira, NPM, Agile/Scrum, CI/CD, Code Reviews, Release Branching

Education
