

Pankaj Singh

Frontend Experience Engineer | React.js / Next.js | Creative, Immersive UI Development

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PROFESSIONAL SUMMARY

Frontend Specialist with 6+ years designing and engineering scalable, high-performance and immersive web applications. Expert in **React.js**, **Next.js**, **Redux**, **TypeScript**, and modern frontend architecture. Proven ability to craft **fluid, multi-pane, conversational UIs**, **canvas-based tools**, and **multi-modal experiences** (voice, audio, haptic) integrated with AI/LLMs. Strong in performance optimization (SSR, Lighthouse), accessibility, and real-time collaboration.

TECHNICAL SKILLS

Frontend

React.js, Next.js, Redux, TypeScript, JavaScript (ES6+), HTML5, CSS3, Styled Components, Material-UI (MUI), Tailwind CSS, Canvas API, Bootstrap, Webpack, React Native, Kotlin, Swift, Three.js, AR.js, RsPack, Web Security

Backend

Node.js, Express.js, REST APIs, GraphQL

Databases

Neo4j, Redis

CI/CD & DevOps

Git, GitHub Actions, Jenkins, AWS, Docker, Kubernetes

Testing

Jest, Mocha

Practices

SOLID, TDD, Agile (SCRUM/Kanban), Trunk-based Dev, A/B Testing

EDUCATION

B.Tech, Information Technology

2014-2018

Guru Gobind Singh Indraprastha University
New Delhi

PUBLICATIONS

Retrofit Framework for Indoor Mobility in Unstructured Spaces

CHI Workshop

https://cdn.disabilityinnovation.com/uploads/documents/CHI-Workshop_submission_10.pdf

EXPERIENCE

SDE-2 Frontend

Jul 2021 – Present

FanCode, Mumbai

- Migrated Shopify store to high-performance **React.js** frontend integrated with Magento backend, enabling richer UI interactions.
- Designed scalable, themeable architecture using **Figma API** and **Styled Components** for white-labeled multi-tenant storefronts (ICC, IPL teams).
- Built the in-house CMS from scratch using **React** and **Material-UI**, supporting large media uploads and complex form workflows.
- Engineered **multi-pane, resizable interfaces** using Material-UI layout components (**Grid**, **Drawer**) and React Split Pane equivalents for dynamic content areas.
- Developed **Canvas-based jersey personalization** tool with drag-and-drop and dynamic positioning, driving engagement.
- Refactored legacy frontend to **Redux Toolkit** + React Suspense, optimizing rendering and maintainability.
- Implemented custom **SSR solution**, improving SEO and boosting Lighthouse score from 34% to 85%.
- Integrated **AI-driven conversational UIs** with LLMs/AI agents for intelligent, interactive experiences.
- Implemented real-time features using **WebSockets** for live scoring updates and streaming metadata synchronization.
- Enabled feature flagging, A/B testing, and analytics (Looker, DRS).
- Optimized streaming TV apps reducing frame drops by 90-95% using segment virtualization.
- Architected **GraphQL schema** for unified metadata across React Native, Android TV, and web.
- Added **multi-modal haptic feedback** for iOS in Swift.

Project Associate (Full Stack Developer)

Aug 2019 – Jul 2021

IIT Delhi, Assistech Lab

- Engineered indoor navigation platform using **React.js**, Kotlin, Express.js, and Neo4j.
- Migrated tagging UI to **HTML5 Canvas** with interactive floor-plan editing.
- Built PWA with **AR.js** for room detection and native Android BLE positioning.
- Implemented **i18n and RTL support** for localization and cultural adaptability.
- Developed **multi-modal features** (voice commands, audio, video aid) for accessibility.
- Used **Three.js** to render 3D GLTF models in real-world mapping context.

Software Developer Intern

Jan 2019 – Jun 2019

Kuants, New Delhi

- Migrated Django monolith to **React+Django SPA** architecture.
- Built reusable UI components and interactive typeahead editor for trading algorithms.

Independent Venture

Aug 2018 – Dec 2018

CosBazaar, New Delhi

- Developed a WooCommerce + React-based product listing platform with order tracking, envisioning a marketplace for handcrafted products that connected local retail vendors to consumers via Unicommerce.
- Gained hands-on experience integrating seller portals and APIs, including Amazon FBA and Flipkart Marketplace.