

Kanupriya Pal

Senior Frontend Engineer — React.js · Next.js · TypeScript · AI Integration

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kanupriya-pal.vercel.app | Bengaluru, India — Open to Remote (EST overlap available)

Professional Summary

Senior Frontend Engineer with 5+ years building scalable **React.js** and **Next.js** applications across SaaS and product companies, now specializing in **AI-powered user interfaces** — LLM API integration, streaming chat UIs, and RAG-based search experiences. Delivered **35–40% performance gains** through Core Web Vitals optimization, SSR/ISR, and code splitting. Architected **microfrontend systems and design systems** adopted across 4+ teams, reducing duplicate dev effort by 30%. Experienced in **cross-functional collaboration with US-based teams (EST overlap)**, async-first workflows, and mentoring engineers. Strong foundation in **TypeScript, accessibility (WCAG 2.1), and frontend security**.

Technical Skills

AI Engineering: LLM API Integration (OpenAI, Anthropic Claude, Gemini), Streaming Responses (SSE), Vercel AI SDK, RAG (Retrieval-Augmented Generation), Vector Search, Prompt Engineering, Function Calling / Tool Use, Structured Outputs, AI Chat & Copilot UIs

AI-Assisted Development: Cursor, GitHub Copilot, Claude Code — AI-accelerated workflows with rigorous human code review

Languages & Core: JavaScript (ES6+), TypeScript, HTML5, CSS3, Python (basics for AI tooling)

Frameworks & Libraries: React.js (incl. Server Components), Next.js (App Router), Redux Toolkit, Redux Saga, Zustand, Context API

Styling & Design Systems: Tailwind CSS, Material UI, Bootstrap, Atomic Design, Figma, Responsive Design

Performance & Architecture: Microfrontend Architecture, Code Splitting, Lazy Loading, SSR/ISR, Memoization, Core Web Vitals, Lighthouse

APIs & Data: REST APIs, GraphQL, WebSockets, React Query, Axios

Testing: Jest, React Testing Library, Cypress (E2E), Unit & Integration Testing

Security: JWT, OAuth 2.0, MFA, XSS Prevention, Secure API Integration

DevOps & Tooling: AWS (S3, CloudFront), Docker, CI/CD, GitHub Actions, Git, Webpack, Vercel

Process & Collaboration: Agile/Scrum, Remote-first, Async Workflows (Slack, Notion, Loom), HLD/LLD, Code Reviews, Mentoring

Professional Experience

Senior Frontend Engineer (Contract) | MilliPixels Interactive LLP — Client: Reach plc Apr 2026 – Present • Remote

- ▶ Working as a **Senior Frontend Engineer** on Reach plc's digital subscription storefronts using **Piano**, delivering and maintaining customer-facing subscription experiences across multiple UK publication brands.
- ▶ Developed and maintained **global and publication-specific storefront templates** using HTML, CSS, JavaScript, responsive design, and Piano template/configuration logic.
- ▶ Delivered reusable UI enhancements across **subscription landing pages, modals, CTA components, and plan-selection journeys**, while preserving bespoke publication behaviour.
- ▶ Implemented **device- and configuration-driven storefront behaviour**, including conditional App Store / Google Play content, responsive layouts, and publication-specific feature flags.
- ▶ Managed frontend changes across **Sandbox, Dev, QA, Pre-Prod, and Production** environments, collaborating with product, QA, design, and engineering teams to minimize regressions.

Senior Frontend Engineer (Contract) | Infosol Technosol Apr 2025 – Mar 2026 • Remote

- ▶ Owned end-to-end frontend delivery across **3+ major production releases**, reducing average feature turnaround by **25%** through streamlined sprint planning and cross-functional async collaboration.
- ▶ Architected **25+ reusable React.js + TypeScript components** as part of a shared design system, cutting new feature development effort by **20%** and standardizing UI patterns across the engineering team.
- ▶ Designed scalable **data-fetching patterns and error boundary strategies** for React-Node.js integrations, improving application resilience and reducing runtime failures in production.
- ▶ Collaborated daily with **US-based product managers and designers (EST timezone)** via Slack, Notion, and Loom — driving requirements alignment without synchronous bottlenecks.
- ▶ Led **code reviews and technical mentoring** for a team of 5 engineers, reducing production bug rate and raising overall PR quality through structured review standards.

Frontend Engineer (SDE II) | Teachmint Technologies Pvt Ltd Feb 2024 – Mar 2025 • Bengaluru / Remote

- ▶ Built and scaled a **microfrontend-based component library** consumed by 4+ independent product teams, eliminating **30% of duplicate development effort** and establishing a single source of UI truth.

- ▶ Improved application performance by **35%** via code splitting, lazy loading, tree-shaking, and strategic caching — validated through **Lighthouse audits and Core Web Vitals** monitoring.
- ▶ Implemented **SSR and Incremental Static Regeneration (ISR)** with Next.js, significantly improving TTFB, LCP, and organic SEO rankings for key product pages.
- ▶ Achieved **high unit and integration test coverage** using Jest and React Testing Library, reducing regression bugs and increasing deployment confidence.
- ▶ Delivered secure authentication flows using **JWT, OAuth 2.0, and MFA** — balancing strong security posture with minimal UX friction.

Frontend Engineer (SDE I) | **Cyber Impulse Software Solution Pvt Ltd**

Aug 2021 – Jan 2024 • Indore, India

- ▶ Engineered responsive, accessible UIs in **React.js and Next.js** across multiple client products; reduced page load time by **40%** through targeted performance optimization.
- ▶ Implemented **Redux Toolkit and Context API** for predictable, scalable state management across complex multi-page applications with heavy async data flows.
- ▶ Established **Atomic Design-based component libraries** from scratch, improving consistency, reusability, and onboarding speed across product lines.
- ▶ Integrated REST APIs with **JWT authentication**, handling error states, loading skeletons, retry logic, and graceful degradation for production resilience.

Selected Projects

AI Knowledge Assistant — RAG-Powered Chat & Search [GitHub]

Next.js, TypeScript, Vercel AI SDK,

OpenAI/Claude/Gemini APIs, RAG, Streaming

- ▶ Built a production-style **AI chat and contextual search application** integrating **LLM APIs (OpenAI, Anthropic Claude, Gemini)** with token-by-token **streaming responses** for a responsive, ChatGPT-like UX.
- ▶ Implemented a **RAG pipeline** — document chunking with overlap, batched embeddings, and cosine-similarity vector search — enabling accurate answers grounded in user-provided content instead of hallucinated output.
- ▶ Engineered **retrieval-as-a-tool** pattern (Zod-validated inputs): the model decides when to search, the server embeds the query and returns ranked chunks with similarity scores, rendered as live tool cards in the UI.
- ▶ Enforced **grounded generation with citations** — system prompt forbids answering outside retrieved passages; assistant states "not in knowledge base" instead of guessing, eliminating hallucination by design.

AI Tools Assistant — Function Calling & Streaming [GitHub]

Next.js, TypeScript, Vercel AI SDK,

Gemini/Claude/OpenAI, Zod

- ▶ Built a streaming AI assistant where the model invokes **live tools** (weather, currency conversion, calculator) mid-response, with **multi-step chaining** (up to 5 tool calls per turn via `stopWhen: stepCountIs(5)`).
- ▶ Enforced **structured outputs via Zod schemas** at the tool boundary — every tool input is validated before execution, treating model output as untrusted input.
- ▶ Engineered **provider-agnostic architecture** — switch between Gemini, Claude, and OpenAI via a single env var (`AI_PROVIDER`) with zero code changes; debugged AI SDK v5 provider spec-version compatibility in production.
- ▶ Shipped **streaming UX**: token-by-token rendering, live tool-call state cards (*input-streaming* → *output-available*), Stop and Retry controls wired to AI SDK hooks.

Teachmint — Education ERP Platform [Live] (*Teachmint Technologies*)

React.js, TypeScript, Microfrontend, Redux

Toolkit, Next.js

- ▶ Built and shipped **core ERP modules** — Student & Teacher Management, Fee Management & Payments, and Attendance & Reports Dashboard — used by **1000+ schools** across India.
- ▶ Architected the frontend as part of a **microfrontend system**, enabling 4+ independent teams to develop and deploy modules without cross-team dependencies.
- ▶ Delivered **35% performance improvement** across ERP modules through code splitting, lazy loading, and Lighthouse-driven Core Web Vitals optimization.
- ▶ Designed **data-dense dashboard UIs** handling complex state, real-time updates, and role-based access control (RBAC).

Quick-Sale — E-Commerce Platform

React.js, TypeScript, i18n, WCAG 2.1, REST API

- ▶ Built a scalable, modular e-commerce frontend with **30+ reusable components**, translating Figma designs pixel-perfectly into production-ready UI.
- ▶ Integrated **multilingual support (i18n)** and **WCAG 2.1 Level AA accessibility** — enabling inclusive UX for a broader user base.
- ▶ Engineered advanced search, filtering, and sorting features, improving product discovery and reducing time-to-purchase friction.

Only-Jewels — MERN Stack E-Commerce

React.js, Node.js, MongoDB, Webpack, SSR

- ▶ Developed a full MERN-stack e-commerce frontend with a **modular, component-driven architecture** optimized for long-term maintainability.
- ▶ Reduced initial bundle size by **40%+** via Webpack configuration, code splitting, and lazy loading — directly improving Time to Interactive (TTI).
- ▶ Built **SEO-optimized, fully responsive** interfaces with SSR — improving search engine visibility and cross-device consistency.

Education

Master of Computer Applications (MCA) | *Rajiv Gandhi Proudyogiki Vishwavidyalaya (RGPV)*

CGPA: 8.76 / 10 • 2021

Bachelor of Computer Applications (BCA) | *Medicaps University (MU)*

CGPA: 8.56 / 10 • 2019