

SHANTANU CHATTOPADHYAY

SENIOR FRONTEND ENGINEER | FRONTEND LEAD

React | Next.js | TypeScript | Accessibility | AI-Enabled Product Engineering
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PROFESSIONAL SUMMARY

Senior Frontend Engineer and Frontend Lead with 20+ years in web/UI and 10+ years in modern frontend engineering. Expert in React, Next.js, TypeScript, Angular, accessibility, design systems and performance. Builds AI-enabled products using RAG, LangChain/LangGraph, FastAPI and agent workflows. Strong in architecture, mentoring and global delivery.

WORK EXPERIENCE

LearningMate Solutions Pvt. Ltd., Kolkata | Aug 2020 - Apr 2026

Senior UI & Accessibility Developer / Senior Frontend Engineer | Kolkata, India

- Delivered scalable React, Angular and TypeScript interfaces for 3 global client programs including Oxford University Press, CeriFi and CCA; built reusable components and design-system patterns.
- Translated Figma and Adobe XD designs into responsive, pixel-accurate interfaces and integrated REST/GraphQL services in microservices-based environments.
- Led WCAG 2.1/2.2 accessibility remediation using semantic HTML, WAI-ARIA, keyboard navigation, NVDA and JAWS, strengthening inclusive UI quality across enterprise products.
- Improved performance using code splitting, lazy loading, Core Web Vitals optimization and 3 Next.js rendering strategies: SSR, SSG and ISR.
- Led frontend team on SRD-75, mentored engineers, performed code reviews, supported CI/CD and coordinated with Product, UX, QA and backend teams.

Hideaway Holidays Pty Ltd / Paradise Adventures & Cruises Pty Ltd | Jun 2016 - Jul 2020

Frontend Developer / Web Programmer & Specialist Consultant | Australia (Remote)

- Owned end-to-end web delivery for 4+ years using WordPress, PHP, JavaScript, HTML5, CSS3 and jQuery, including custom themes/plugins and booking/API integrations.
- Improved SEO, performance and maintainability while owning testing, debugging and production releases for customer-facing travel websites.
- Worked directly with Australian stakeholders and vendors, translating business requirements into practical web solutions and coordinating delivery.

Arena Animation (Aptech Ltd.) | Oct 2005 - May 2016

Senior Faculty - Web & Multimedia Technologies | Kolkata, India

- Delivered 10+ years of training in JavaScript, HTML/CSS, web development, UI design and multimedia technologies; created course material and guided live projects.
- Mentored students on practical delivery, portfolio development, performance evaluation and placement readiness.

SELECTED PROJECT

DeepResearch AI - AI-Powered Multi-Agent Research Platform | 2026

Independent AI Engineering Project /

- Built and deployed a GenAI research product with Next.js 16, React 19, TypeScript, Python, FastAPI and Pydantic.
- Designed multi-agent research workflows using LangChain, LangGraph, Gemini, Tavily and arXiv to generate cited research reports.
- Implemented RAG across 6 file formats - PDF, DOCX, TXT, Markdown, CSV and XLSX - with chunking, MiniLM embeddings and vector retrieval.
- Optimized the backend for constrained cloud memory and deployed the frontend/backend across Vercel and Render.

Live: <https://deepresearch-ai-theta.vercel.app> | **GitHub:** <https://github.com/shantanu-c25>

SKILLS

Frontend: React.js, Next.js, Angular, TypeScript, JavaScript (ES6+), HTML5, CSS3, Tailwind CSS, SASS/SCSS, Bootstrap, Material UI, jQuery

Architecture & State: Redux, Redux Toolkit, Context API, React Hooks, Design Systems, Micro Frontends, reusable UI libraries
Component-driven architecture

APIs & Quality: REST APIs, GraphQL, Jest, React Testing Library, Cypress, Playwright, WCAG 2.2, Core Web Vitals

AI / GenAI: Prompt Engineering, RAG, AI Agents, Multi-Agent Systems, LangChain, LangGraph, MCP, Google AI Studio, Gemini, Hugging Face, Gradio, n8n, Codex, Claude Code

Backend Exposure: Python (working knowledge), FastAPI, Pydantic, REST APIs, GraphQL, Axios, Node.js (basic), Express.js (understanding), JWT, OAuth 2.0

Quality / Performance: WCAG 2.0/2.1/2.2, WAI-ARIA, NVDA, JAWS, Jest, React Testing Library, Cypress, Playwright, SSR/SSG/ISR, Core Web Vitals, code splitting, lazy loading

Tooling / Delivery: Git, GitHub, Bitbucket, Webpack, Vite, npm, Yarn, CI/CD, SonarQube, Jira, Confluence, Figma, Adobe XD

CERTIFICATIONS

- AI Engineering Accelerator Program (Generative AI for Tech Professionals) - Outskill | Sep 2026
- Artificial Intelligence (AI) Training - LearningMate Solutions | 2025
- Web Accessibility - Deque University | 2023
- React.js Development Training - LearningMate Solutions | 2022

EDUCATION

M.A. in Economics - Rabindra Bharati University, Kolkata | 2004

B.A. in Economics - University of Burdwan, Bardhaman | 2000