

RAHUL ANAND NAYANEGALI | Software Engineer

Portfolio | nayanegali.rahul@gmail.com | 551-399-9002 | LinkedIn | GitHub

SUMMARY

Software Engineer with around 5 years of experience in React 18+, Next.js, TypeScript, and Redux, specializing in building scalable, high-performance web applications with optimized Core Web Vitals, SSR, and lazy loading. Proficient in backend development using Node.js, Python, and Flask, with experience in architecting RESTful APIs and integrating ArangoDB for advanced data structuring. Strong foundation in AI and Machine Learning, leveraging LLMs, PyTorch, and CNNs to enhance chatbots, search functionalities, and AI-driven personalization. Experienced in cloud and DevOps, holding an AWS Cloud Practitioner certification, and adept at designing CI/CD pipelines with automated testing for seamless deployments. Deep understanding of browser extensions, having built high-performance Chrome extensions with React, TypeScript, and custom automation features. Strong advocate of Agile methodologies, actively contributing to sprint planning, peer code reviews, and daily stand-ups.

SKILLS

| | |
|--|--|
| Languages: | JavaScript (ES6+), TypeScript, HTML5, CSS3, Python, Node.js, SQL |
| Frameworks & Libraries: | React 18+, Next.js, Redux, Custom Hooks, Context API, Component Design, Design Systems, Flask, Tailwind CSS, Chakra UI, Material UI, CSS-in-JS, SCSS |
| Database: | MySQL, SQL Server, ArangoDB, SQLite, PostgreSQL |
| Cloud: | AWS (Certified Cloud Practitioner), CI/CD Pipelines, Automated Testing |
| Tools and Testing: | Vite, Webpack, ESBuild, Jest, React Testing Library, Storybook, Chrome Extension API, Git, GitHub, CI/CD Pipelines, Automated Testing |
| AI & Machine Learning: | LLM (Large Language Models), PyTorch, CNN |
| Methodologies: | Agile (Scrum, Sprint Planning, Code Reviews), TDD (Test-Driven Development), State Management, Lazy Loading, Memoization, Core Web Vitals, SSR (Server-Side Rendering) |
| Data Governance & Compliance: | GitHub, Alteryx, Adobe Analytics, Erwin Data Modeler, ER Studio v17Git, GitHub, Jenkins, Jira, HIPAA Compliance, Data Validation & Quality Checks, Data Security & Governance Policies |

EXPERIENCE

Senior Software Engineer, **SHOPTAKI, NY** Aug 2024 – Present

- Implemented a reusable component library using TypeScript, enabling faster development cycles and maintaining UI consistency across web and mobile applications.
- Developed and optimized dynamic e-commerce interfaces with React.js, Redux, and React Native, ensuring seamless navigation, efficient state management, and high-performance UX across platforms.
- Integrated and enhanced AI-driven features using LLM (Large Language Models) to improve search functionality, chatbot interactions, and personalized customer engagement.
- Enhanced test efficiency by leveraging Vitest's fast execution and native ESM support, reducing test runtime and improving developer productivity.
- Built and connected front-end applications with RESTful APIs, Node.js, and Python-based services, ensuring efficient data retrieval, authentication, and transaction processing.
- Architected and developed RESTful Node.js API services with ArangoDB, optimizing complex graph data relationships for advanced data structuring and analysis.
- Implemented and maintained CI/CD pipelines with automated testing, ensuring code quality, rapid deployment, and seamless integration across multiple environments.
- Utilized Git for version control and actively contributed to Agile workflows, including sprint planning, peer code reviews, and daily stand-ups to drive project success.

Engineer, Web Development, **Code Craft Technologies, Bangalore, India** Feb 2021 – Jan 2023

- Led Next.js migration across multiple client projects, achieving 40% Core Web Vitals improvement and 50% reduction in Time to Interactive through SSR optimization
- Modernized legacy React codebase with webpack and babel upgrades, reducing build time by 50% and implementing automated testing that increased coverage to 90%
- Architected performant tree-based UI component library for workflow management, delivering 40% improved user engagement and 30% faster load times
- Designed and implemented debounced search functionality serving 200K users, reducing API calls by 70% and improving search performance by 30%

- Created technical training program for 30 developers focusing on React/TypeScript best practices, resulting in 60% quality improvement and 40% team productivity gain.

Front End Engineer, **Hexaware, Bangalore, India**

May 2020 – Jan 2021

- Develop and enhance responsive web applications using HTML, CSS, and JavaScript, ensuring a seamless user experience across different screen sizes and devices.
- Work with React.js to build dynamic, interactive, and reusable UI components for scalable applications.
- Maintain technical documentation for frontend components, development workflows, and best practices, ensuring clarity for future developers and team collaboration.
- Increased UI reliability by leveraging React Testing Library with Jest to validate component rendering, user interactions, and state management.
- Actively participate in Agile development processes, attending daily stand-up meetings, sprint planning, and code reviews to ensure timely feature delivery and continuous improvement.

Assistant Software Engineer, **Tata Consultancy Services, Bangalore, India**

Nov 2018 – Apr 2020

- Built a real-time dashboard using React and SCSS, ensuring 99.9% uptime and serving 50K daily active users with optimized UI performance.
- Developed and maintained clean, modular, and reusable code in React and Python, adhering to best practices for scalability and collaboration.
- Integrated front-end applications with Flask APIs and RESTful services, handling authentication, data retrieval, and real-time updates to ensure seamless data flow.
- Implemented CI/CD pipelines for automated testing and deployment, enhancing workflow efficiency and enabling smooth integration with Flask-based microservices.
- Applied Test-Driven Development (TDD) principles using Jest, React Testing Library, and Cypress, ensuring high-quality, maintainable, and bug-free deployments.
- Collaborated with UI/UX designers to translate wireframes and prototypes into functional, visually appealing web interfaces, ensuring accessibility and consistency.
- Optimized front-end performance using techniques such as lazy loading, image compression, JavaScript minification, and elimination of render-blocking resources for faster load times.
- Debugged and resolved front-end issues using browser developer tools, fixing layout inconsistencies, JavaScript errors, and cross-browser compatibility challenges.
- Managed source code efficiently using Git and GitHub, implementing version control best practices, code reviews, and structured branching strategies.

OPEN-SOURCE CONTRIBUTIONS

Univer ([dream-num/univer](https://github.com/dream-num/univer)) - Core Contributor

- Optimized critical React rendering performance in spreadsheet application's Ribbon component using useMemo and ResizeObserver, eliminating rendering bottlenecks
- Engineered solution for UI flickering issues affecting global user base, implementing advanced React optimization patterns
- Delivered production-grade performance improvements through collaborative development & rigorous code review process

PROJECTS

Aquila Test AI, Software Engineer, Remote

Jul 2023 – Present

- Developed high-performance QA automation Chrome extension using React 18 and TypeScript, reducing workflow creation time by 95% (2 days to 20 minutes)
- Engineered intelligent DOM traversal system using memoization and custom hooks, automating XPath generation with near-perfect accuracy
- Ensured application stability by implementing unit and integration tests with Vitest, identifying and addressing critical issues early in development.
- Implemented cross-context communication system between content scripts and UI components using message bus pattern, ensuring reliable state management
- Built responsive UI with Tailwind CSS and Chakra UI, utilizing lazy loading and performance optimizations for seamless user experience
- Established reusable component architecture with custom hooks and TypeScript patterns, reducing future feature development time by 60%

- Led complete product development from ideation to production, creating comprehensive documentation and development guidelines for the team

AI-Based Common Thorax Disease Detector using X-Ray

Jul 2023 – May 2024

Technologies: PyTorch, React, Flask, CNN, ROC-AUC

- Designed and implemented a scalable system architecture integrating a deep learning CNN model with a React frontend and Flask backend, achieving 93% accuracy in X-ray image classification.

EDUCATION

Master of Science in CS

May 2024

Pace University, NY

Bachelors in Engineering

Sep 2018

Sri Siddhartha Academy of Higher Education, Karnataka, India

CERTIFICATIONS

AWS Certified Cloud Practitioner

Master JavaScript