Sahana Hari Kulkarni

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Summary

Frontend Software Engineer with 2 years of experience building scalable web applications using React, TypeScript, Redux, and REST APIs. Experienced in performance optimization, reusable component design, CI/CD pipelines, and Agile Scrum environments.

Technical Skills

Programming Languages: TypeScript, JavaScript (ES6+), C, C++, Python, Java
Frontend Technologies: React.js, Redux, HTML5, CSS3, Tailwind CSS, Material UI, Responsive Design, React Hooks (useState, useEffect), Accessibility (ARIA), Cross-Browser Compatibility
Backend Technologies: Node.js, Express.js, RESTful APIs
Databases & Cloud: PostgreSQL, MySQL, MongoDB, DynamoDB, SQLite, AWS (EC2, S3, IAM)
DevOps & CI/CD: Docker, Git, GitHub Actions, CI/CD
Testing & Tools: Jest, React Testing Library, Postman, VS Code, Jira, Confluence

Experience

Administrative Office of Courts **Aug 2024 – Present**
Software Engineer (Frontend) *Little Rock, AR*

- Developed and maintained scalable frontend applications using **React.js, TypeScript, HTML5, CSS3**, supporting critical accounting workflows including End-of-Month processing, disbursables, and withdrawals.
- Built reusable and modular UI components leveraging **React Hooks (useState, useEffect)** and **Redux** for efficient state management, reducing code duplication by 25%.
- Integrated frontend components with **RESTful APIs** using **OpenAPI/Swagger**, implementing robust input validation and error handling to ensure reliable data exchange across financial modules.
- Optimized frontend performance through efficient rendering, state updates, and UI performance tuning, reducing page load times by 30%.
- Collaborated in an **Agile Scrum** environment, participating in sprint planning, daily stand-ups, and **code reviews**, achieving a 95% on-time sprint delivery rate.
- Worked closely with UX designers to translate complex accounting workflows into intuitive, **responsive and accessible (ARIA-compliant)** user interfaces, improving user adoption by 20%.
- Developed real-time financial dashboards and reports, improving data accuracy and reducing reconciliation time by 40%, and contributed to **CI/CD pipelines** using **GitHub Actions** and **Docker**, reducing release cycles by 30%.

Projects

Enterprise Expense & Disbursal Management Dashboard
React, TypeScript, Tailwind CSS, React Query, Node.js, Express

- Built a frontend-focused expense management dashboard supporting real-world workflows **(PENDING → APPROVED/REJECTED)** with conditional UI actions.
- Implemented server-state management using **React Query**, including query invalidation after status mutations to keep the UI consistent with backend data.
- Developed and integrated **REST APIs** using **Node.js/Express**, including validation and 404 handling for missing resources.
- Designed clean, reusable UI components with **Tailwind CSS**, incorporating loading, error, and empty states for better UX.
- Structured the application with clear separation between UI, API layer, and server logic, following production-grade frontend architecture practices.

Scalable Frontend Dashboard - Performance Optimization Case Study
React, TypeScript, Tailwind CSS, @tanstack/react-virtual

- Built a performance-focused dashboard comparing baseline vs optimized rendering on large datasets (20k–50k rows).
- Improved UI responsiveness using **debounced search** and memoized filtering/sorting with **useMemo** and stable handlers with **useCallback**.
- Reduced unnecessary re-renders by memoizing row rendering using **React.memo** and profiling render behavior.
- Implemented list virtualization with **@tanstack/react-virtual** to render only visible rows, enabling smooth scrolling at scale.

Education

Arizona State University **Aug 2022 – May 2024**
Master of Science in Computer Engineering *Tempe, AZ*