Harshwardhan Patil

Arlington, TX | work.harshwardhanpatil@gmail.com | 817-938-9288 | LinkedIn | GitHub | Portfolio

Overview

Frontend Engineer with **3+ years of experience** designing and delivering large-scale, data-intensive web applications. Strong focus on component-driven UI architecture, client-side state management, performance optimization, and accessibility-first development (WCAG/ARIA). Experienced in building reusable frontend systems, interactive dashboards, and complex data visualizations while collaborating closely with cross-functional teams.

Technical Skills

- **Languages & Markup:** TypeScript, JavaScript (ES6+), HTML5, CSS3, SCSS
- **Frontend & State:** Angular (CLI, Material, CDK), RxJS, Reactive Forms, Routing, Lazy Loading, observable-based state, async orchestration, caching
- **UI Architecture & Visualization:** Component-driven design, reusable UI systems, design systems, smart/presentational separation, D3.js, Chart.js
- **Performance & Accessibility:** Change detection optimization, bundle splitting, Lighthouse, WCAG, ARIA
- **Testing & Integration:** Jasmine, Jest, Cypress/Playwright, Storybook, REST/JSON, interceptors, pagination, error handling
- **Tooling & Delivery:** Angular CLI, Nx (basic), Docker (frontend), GitHub Actions, Jenkins, SonarQube

Professional Experience

Software Engineer, Clarivate Analytics – Bangalore, India *Aug 2023 – Aug 2024*

- Architected a reusable Angular table framework with dynamic columns, filters, preferences, and exports, adopted across teams, reducing UI duplication **80%+**.
- Built reusable D3.js chart components (bar, line, stacked) to power consistent analytics views across products and simplify frontend maintenance workflows.
- Implemented client-side filtering service with dependent rules, reversible state, and server-backed pagination for data-heavy search and reporting use cases.
- Coordinated RxJS-based async frontend data flows to support large PPT and PDF exports with stable performance and correct aggregation.
- Designed modular Angular components with clear separation of presentation and logic, improving maintainability and enabling faster iteration across features.
- Integrated frontend modules with REST APIs using interceptors and centralized error handling, ensuring consistent data flow and resilient UI behavior.
- Maintained frontend quality through unit testing, static analysis, and code reviews, enabling safe iteration and reliable feature delivery.

Associate Software Engineer, Clarivate Analytics – Bangalore, India *Aug 2021 – Jul 2023*

- Developed data-driven frontend features including advanced search views, reusable tables, and interactive charts integrated with REST APIs for scale.
- Built responsive Angular UI components following reusable patterns, ensuring consistent behavior across reporting and analytics modules for performance.
- Migrated legacy UI components to Angular, rebuilding **5+** core business flows with a modular, maintainable frontend architecture with tests.
- Optimized frontend rendering and state management by reducing re-renders and improving data fetching, achieving **20–30%** faster page loads in production.
- Improved accessibility using semantic HTML, ARIA roles, and keyboard navigation, achieving Lighthouse accessibility scores above **95** and usability.
- Participated in code reviews and team discussions, improving frontend code quality and adherence to shared UI design standards and guidelines.
- Established a frontend testing baseline using Jasmine and Protractor, reducing regressions and post-release defects by approximately **25%**, and automation.

Education

University of Texas at Arlington *Master's in Software Engineering* *May 2026*
BMS College of Engineering, India *Bachelor's in Mechanical Engineering* *July 2021*

Projects

Employee Management System (EMS) *Dec 2024 – Nov 2025*

Enterprise-grade web application for managing employees, departments, and organizational data.
Tools: Angular, Spring Boot, PostgreSQL, AWS, Docker

- Architected a modular Angular frontend with reusable tables, filters, and dashboards to manage large datasets and reduce UI duplication.
- Implemented scalable data workflows (client-side pagination, server filtering, sorting) and optimized fetch aggregation to support interactive data exploration.
- Delivered responsive dashboards and production-ready CI/CD pipelines for consistent builds, deployments, and robust operational observability.

Battle Arena – Browser-Based Multiplayer Game Platform *May 2024 – Present*

Browser-based multiplayer game platform focused on modular frontend architecture, real-time UI updates, and interactive gameplay rendering.
Tools: Angular, Phaser 3, TypeScript, RxJS, Node.js, WebSockets, Docker, AWS

- Integrated Phaser 3 with Angular to build a frontend architecture that separates engine logic from UI, enabling iteration and smooth rendering.
- Implemented real-time sync using RxJS and WebSockets to coordinate player actions, game events, and UI updates with low-latency, consistent state.
- Engineered terrain-aware movement, collision visualization, and Docker deployments for reproducible development and scalable hosting.

AI-Powered Personal Finance Manager *Feb 2025 – Apr 2025*

Personal finance web app with bank-linking, budget tracking, and visual insights powered by AI.
Tools: Streamlit (Python), Altair, Flask (REST API), Plaid API, OpenAI API, Docker, GitHub Actions, AWS (RDS; EC2 planned)

- Built a multi-page Streamlit frontend for bank linking, transaction views, budget tracking, and insights with interactive Altair visualizations.
- Integrated frontend flows with a Flask backend for Plaid token exchange and transaction retrieval, handling loading states, errors, and secure key usage via environment variables.
- Added automated testing for backend routes and frontend navigation (Playwright), supporting reliable iteration and regressions checks.