

Salem Cobalt

Principal Frontend Engineer | Design Systems Expert

Boston, MA • me@salemcobalt.com • github.com/sghoweri • linkedin.com/in/salemcobalt

SUMMARY

Principal Frontend Engineer with 14+ years specializing in design systems used at scale — component API architecture, design token pipelines, and theming systems — with deep expertise in React, TypeScript, headless UI primitives, web components, accessibility, and AI-assisted (agentic) development workflows.

WORK EXPERIENCE

Independent Software Consultant | [Midnight Mansion](#) | April 2026 – May 2026

- Led agent-driven refactoring and migration workflows (Claude Code) across the client's full-stack codebase; frontend architecture consulting
- Designed and shipped a highly interactive physical mini-game for Edge of Elsewhere, their upcoming immersive venue — MCU programming, a centralized SSE-based control system, WebSockets, and a collection of fully playable levels

VP of Engineering - Frontend Architecture | [Pypestream](#) | January 2023 – March 2026

- Architected and helped build Pypestream's cross-platform (Lit + React-wrapped) [design system](#) — deeply incorporating headless UI primitives (Base UI, Floating UI, TanStack Table) into core components and product features — adopted company-wide across 5+ next-gen products (Manager, Auth, Pro Studio, Contact Center, Analytics)
 - Embedded WCAG 2.1 AA accessibility standards — robust keyboard navigation, focus management, and ARIA pattern support — directly into downstream products via the centralized Lit + React design system
- Owned and led the company-wide frontend re-platforming: unified 7+ disjointed product repos and shared UI libraries into a single TypeScript monorepo, centralizing how the design system and all consuming full-stack apps are built, tested, documented, deployed, and maintained
- Re-platforming and workflow improvements drove a 4x increase in frontend release frequency and 50%+ reduction in CI/CD times — even as centrally managed apps grew — saving thousands in infrastructure costs
- Drove pragmatic AI coding agent adoption across frontend teams (Cursor, Claude Code) plus AI-assisted code review (CodeRabbit) — shipping production code with agents while raising, not lowering, the code-quality bar
- Led a distributed team of 9 full-stack / senior frontend engineers; technical lead on rebuilding Pypestream's core management platform (Manager, Auth, and Pro Studio greenfield apps) — the rebuilt platform directly supported \$1M+ contract renewals and expansions with Fortune 500 clients

Principal Frontend Engineer | [Knapsack](#) | May 2020 – January 2023

- Rebuilt the entire frontend UI for Knapsack's flagship "design system as a platform" product — the tool enterprise design system teams use to build, document, theme, and ship their own design systems
- Co-developed multiple codemod systems powering the core product — most notably an inheritance-based UI theming system letting customer brands customize the product's appearance without compromising accessibility or slowing internal product iteration
- Architected end-to-end design token pipeline and consumption tooling: Style Dictionary definitions consumed as CSS custom properties, Sass mixins, and auto-generated TypeScript typings
- Built, tested, and shipped major UI/UX-heavy iterations to the core product's modular block-based editing system; extensive React, XState, GraphQL, and TypeScript usage

Lead Frontend Architect | [Pegasystems](#) | July 2016 – May 2020

- Frontend development lead and creator of the Bolt Design System (boltdesignsystem.com), powering the front-end UI across Pega's 5+ corporate sites and 7+ microsites
- Drove Pega's web frontend consolidation onto Bolt — the fragmentation → migration → adoption arc — through design system summits, cross-team component API workshops, and long-term maintainability practices later featured in my 2019 conference talks

- Planned, built, documented, tested, released, and maintained the design system's frontend deliverables (highly accessible components, patterns, design tokens, docs & demos, CI / CD processes, dev tooling) and infrastructure
- Developed a system of centrally maintained, shared Lit-based web components with deep backend (Drupal 8 + custom Twig extensions) CMS integration
- Authored Sass-based CSS architecture and theming used by engineers, designers, and content authors

Frontend Architect | **Genuine Interactive** | *March 2012 – March 2016*

- Built front-end websites & apps for top clients including Angry Orchard, Samuel Adams, [Panera Bread](#), and [Akamai.com](#)
- Consulted, architected, and built best-in-class responsive, mobile, and desktop sites; early design system advocate

AWARDS, TALKS & ACHIEVEMENTS

- Former Lead Maintainer + [core contributor](#) of [Pattern Lab](#)
- Numerous **Design System Conference Talks**, including:
 - [Front-end Architecture for Scalable Design Systems](#) (Drupalcon Seattle 2019, Drupalcamp Poland 2019) — the Bolt fragmentation → migration → adoption story
 - [Next Gen Design Systems with Pattern Lab, Twig, and Web Components](#) (Design4Drupal Boston, 2018)
 - [Design Systems Are Hard](#) (Design4Drupal Boston, 2017)
- Featured on S1, E8 of the **Design Systems Podcast**: [“Bolt Design System & Front-End Architects”](#)
- Pega Business Operations Team Award for Innovation (Q1 2019)

TECHNICAL SKILLS

- **Design Systems & Component APIs**: Headless/unstyled UI primitives (Base UI, Material UI, Floating UI, TanStack Table) deeply integrated into design system components; component API design; design token pipelines (Style Dictionary, Figma-to-code); experience with type-safe styling (Vanilla Extract — same compile-time family as StyleX); design system theming systems; automated, versioned design system docs
- **React & Modern Full Stack**: React, XState, MobX, Next.js, React Router, Auth0, Kratos, Sentry, Datadog, Playwright, Vitest, Cypress, Percy, Lost Pixel
- **AI Tooling & Engineer Efficiency**: Claude Code, Cursor, CodeRabbit — daily production use; led sensible team adoption; AI-assisted code review; agent workflows for refactoring and migration
- **CSS Architecture**: Scalable BEM / ITCSS Sass (SCSS) architecture, advanced animation and user interaction patterns, CSS custom properties, theming systems, advanced modular (fluid) typography & layout techniques, design token management (Style Dictionary, Figma-to-code token pipelines)
- **Web Component Architecture**: TypeScript-typed Lit elements w/ React integration, progressive enhancement / accessibility, i18n (internationalization), native form behavior (ElementInternals), server-side rendering via Twig / Node, extensive Shadow DOM experience
- **Web Performance**: Re-render optimization, ES Modules, extensive responsive image experience + techniques (intrinsic ratio, average image color / base64 placeholders, lazy loading), Critical CSS, async font loading, tree shaking, web performance auditing, monitoring, and instrumentation — SpeedCurve, Lighthouse, Web Vitals; image optimization services (Cloudinary, Imgix)
- **Frontend Tools & Bundling**: Vite, Rollup, Babel, ESLint, Prettier, GraphQL, Hasura, URQL, TypeScript, Storybook, Pattern Lab, 11ty, automated docs & schema APIs; some Figma + VS Code plugin experience
- **Frontend DevOps & Automation**: Monorepo management (Yarn, NX, Lerna), CI/CD (GitHub Actions), serverless functions & middleware (Vercel, Cloudflare Workers), monitoring & instrumentation (Sentry, Datadog), visual regression (Percy, Lost Pixel), automated release pipeline (NPM publishing, GitHub releases, release notes, Slack notifications)