Bruce Royce

Lead Frontend Architect and Engineer
React.js and TypeScript applications for data-dense interfaces, real-time collaboration and AI-assisted workflows
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SUMMARY

Architect and Lead Frontend Engineer with 26 years in web software, 16 of them in frontend. I build React and TypeScript applications for large datasets, real-time collaboration and AI-assisted workflows, and lead teams of 4 to 8 engineers while still writing code. Recent results: cut a 30MB JavaScript bundle to about 1MB at Xapien; moved Legal500 from legacy WordPress to Next.js and raised its Lighthouse performance score from about 45 to 95. Earlier work at the BBC, American Express and Ecwid.

CORE SKILLS

Frontend	React, TypeScript, JavaScript, Next.js, Vue, HTML5, CSS/SCSS, Tailwind
Backend & Cloud	Node.js, Bun, PHP, Go; AWS; Backend-for-Frontend (BFF) design
UI architecture	Frontend architecture, design systems, WCAG, semantic HTML, responsive UI
Data and state	REST APIs, TanStack Query, TanStack Table, GraphQL, Zustand, Redux Toolkit, WebSockets
Quality and delivery	Jest, Vitest, Storybook, Playwright, CI/CD, Observability
Performance and security	Core Web Vitals, bundle profiling, zero-trust access checks, JWT/token handling and headers, CORS, XSS/CSRF/injection prevention, encrypted caching, BFF patterns so tokens and business logic stay server-side
Data visualisation	D3.js, Chart.js, Tremor, Pixi.js, WebGL; interactive analytics, real-time visualisation, data-driven interfaces
AI-assisted development	Regular use of OpenAI's Codex in VS Code and Google's Antigravity IDE

PROFESSIONAL EXPERIENCE

PetVitae Labore – Founding Engineer, Independent venture | Jan 2026 – Present | UK

Stack: Bun, TypeScript, Next.js, Tailwind, Strapi (headless CMS)

- Set up the technical foundations and architecture for an early-stage pet nutrition venture, with full responsibility for delivery and a cloud-native backend.

Xapien – Lead Frontend Engineer, *contract* | Jun 2025 – Dec 2025 | London, UK

Stack: React (TypeScript), TanStack Virtualisation, Tailwind, Turborepo, Go (BFF), MongoDB, AWS, Linear

- Rebuilt a tenant-aware frontend as a thin, modular React application with TanStack Virtualisation and TanStack Table patterns for data-dense due-diligence views used by multiple teams in real time & moved business logic to a backend-for-frontend.
- Established a shared design system at Xapien, replacing scattered designs and inconsistent components with reusable components and predictable behaviour across the application.
- Cut the JavaScript bundle from 30MB to about 1MB and made data loading close to instant with loading pages and several cache levels. Released at least twice a week.

Legal500 – Lead Frontend Engineer | Jul 2024 – Mar 2025 | London, UK

Stack: Next.js (TypeScript), Tailwind, SWC, Node, GraphQL, Kafka, MongoDB, Azure DevOps, Heroku

- Led 4–6 engineers moving a legacy PHP/WordPress site to Next.js and built structured-data visualisations plus comparison tooling for in-house counsel.
- Built a component library and design system now used by three other departments.
- Cut the time to deliver changes from several weeks to 5–10 major features per four-week sprint. Raised the Lighthouse performance score from about 45 to 95.

PetLab Co Group – Lead Frontend Engineer, *contract* | Jul 2023 – Jun 2024 | London, UK

Stack: Next.js & Gatsby (TypeScript), MySQL, Strapi, Optimizely, AWS

- Converted more than $2.6M per quarter of paid traffic into organic traffic, cutting direct-marketing spend by that amount.
- Brought page speed close to 100 with workers and caching, and separated traffic by serving region (UK, US, Germany, Mexico).

LawAIer – Staff Frontend Engineer, *focused build/pilot* | Jul 2022 – Jun 2023 | London, UK

Stack: Next.js (TypeScript), Node.js, Prisma, PostgreSQL + MongoDB, AWS Bedrock, Azure

- Built multi-tenant frontend architecture and real-time collaboration for an AI-assisted legal writing platform, including evidence extraction and document drafting.
- Linked AI-generated findings to source documents and supporting passages, allowing lawyers to check the evidence before using it in their work.

British Film Festival – Staff Engineer | Mar 2019 – May 2022 | Iver, UK

Stack: Next.js (TypeScript), Node, MySQL, Vercel

- Built the remote judging platform for close to 1,000 entrants from about 90 countries, covering short and feature films, adverts, music videos, fashion films, animations and game intros.
- Reworked the customer-facing web application for performance and reliability, leading a distributed team of one employee plus contractors and volunteers, with numbers changing by project.

American Express – Senior Frontend Engineer | Oct 2015 – Mar 2019 | London, UK

Stack: JavaScript, JSP, Node, React

- Redesigned digital-product acquisition funnels, added engagement and conversion analytics, and simplified the customer journey with asynchronous, API-driven interactions.

Ecwid/Lightspeed – Senior Software Engineer | Aug 2013 – Aug 2015 | Prague, CZ

Stack: PHP Symfony, JavaScript, AWS

- Architected high-traffic global payment integrations and developer SDKs.
- Built secure, accessible web components for financial operations, and improved DevOps pipelines and cross-team integration.

BBC – Lead Software Engineer (Various) | 2007 – 2013 | London, UK

Stack: JavaScript, WebGL, ASP/ASP.NET

- Led teams building virtual studio and live graphics control systems; built interfaces and analytics and real-time data visualisation layer for iPlayer.

EDUCATION

MEng, Computer Engineering (Hardware) – University of Tehran, Faculty of Engineering
BEng, Mechanical Engineering (Heat and Fluid Mechanics) – University of Tehran, Faculty of Engineering

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CERTIFICATIONS

BBC Accessibility and Inclusive Design; BBC Test Academy; Apollo GraphQL; Vizrt real-time systems