

Alan Mortoni

Senior Frontend Engineer / Frontend Systems Architect

Senior Frontend Engineer specialising in React, TypeScript, WCAG-aligned accessibility, reusable UI systems, and data-intensive interfaces across Queensland Government transport environments. Builds secure, testable applications with API-integrated workflows, dashboards, and component-driven architecture for complex public-sector delivery.

 <https://alanmortoni.dev>

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 Brisbane, Australia

TECHNICAL SKILLS

Frontend

JavaScript, TypeScript, React, Next.js, HTML, CSS, Tailwind CSS, shadcn/ui

Frontend Architecture

Reusable UI systems, Component-driven architecture, Design systems, Frontend platform design, Multi-page application flows

Testing & Quality

Playwright, Cypress, Jest, Vitest, Storybook, E2E testing, API mocking

APIs, Auth & Cloud

GraphQL, AWS AppSync, REST APIs, AWS, Amazon Cognito, OAuth2 / OpenID Connect (OIDC), Secure authentication, Secure API integration

Engineering Practices

GitHub Actions, CI/CD, Git/GitHub workflows, Pull requests, Code review, Jira, Agile/Scrum

Accessibility

WCAG 2.1/2.2 AA, Accessible UI design, Keyboard navigation, Screen-reader-aware interfaces, Colour contrast

State & Data Fetching

MobX, Redux, Server-state patterns, API-integrated workflows

Visualisation & Workflow UI

MapLibre, Mapbox, Geospatial interfaces, Operational dashboards, Workflow modelling, Process visibility

AI-Assisted Development

Claude Code, Cursor, OpenAI Codex, GitHub Copilot, Model Context Protocol (MCP), AI-assisted software development, AI-assisted code review

PROFESSIONAL EXPERIENCE

Frontend Systems Architect / Senior Frontend Engineer (Frontend Lead)

Queensland Department of Transport and Main Roads

Mar 2023 – Present

React

TypeScript

GraphQL

AWS AppSync

Amazon Cognito

MapLibre

Playwright

Storybook

Technical lead across Queensland Government transport platforms, building React and TypeScript applications for complex workflows, data-intensive interfaces, geospatial visualisation, and service delivery systems. Hands-on work across accessibility, reusable UI patterns, API integration, Playwright testing, and maintainable component architecture.

GDS / Map Core / Map Kit

Shared geospatial platform layer so transport products adopt common mapping capabilities instead of building their own.

- Built Map Core and Map Kit as reusable React and TypeScript foundations for geospatial data visualisation, enabling teams to adopt shared capabilities instead of rebuilding map implementations.
- Standardised interaction patterns—layers, markers, clustering, selection, geometry rendering, and shared UI contracts—to improve consistency and reduce duplicated effort across transport platforms.
- Documented and supported adoption through Storybook, Playwright E2E coverage, and integration guidance, strengthening test coverage and release confidence.

Case Study: <https://alanmortoni.dev/work/gds>

RTDP (Real-time Transport Data Portal)

Platform for publishing, validating, governing, and consuming transport datasets across public-sector programs.

- Built API-integrated React interfaces for publishing, validation, ingestion, and release workflows, improving pipeline visibility and decision-making for policy, data, and operations teams.
- Developed reusable governance and approval UI patterns across Data Exchange and Control Centre, clarifying security-sensitive public-sector dataset lifecycle management.
- Surfaced pipeline state, validation results, and version behaviour through structured workflow interfaces, supporting clearer decisions across complex publishing and governance workflows.

Case Study: <https://alanmortoni.dev/work/rtdp>

Central Facility

Platform UI for high-volume event processing—dashboards, map-based monitoring, and workflow tools for infrastructure health and event lifecycle management.

- Led the rebuild, consolidating fragmented screens into high-density dashboards and map-based monitoring workflows with clearer event visibility.
- Delivered accessible, predictable interaction patterns across infrastructure health summaries, live event monitoring, and configuration—balancing rapid interaction with contextual continuity and workflow reliability.
- Strengthened release confidence through reusable UI patterns, targeted end-to-end testing, and safer interaction flows.

Case Study: <https://alanmortoni.dev/work/central-facility>

Senior Frontend Engineer

NHVR · Jan 2022 – Jan 2023

React TypeScript Material UI GraphQL REST APIs

Delivered React and TypeScript interfaces in a regulated environment for national heavy vehicle systems, supporting permits, compliance workflows, and maintainable systems.

- Built React and TypeScript interfaces for permits, compliance workflows, and decision-support systems across national heavy vehicle programs.
- Collaborated with product owners, designers, and backend engineers to translate regulatory requirements into scalable, maintainable systems.
- Introduced reusable patterns, shared components, and engineering practices that improved consistency across products.
- Contributed to design decisions focused on usability, maintainability, and long-term evolution of transport systems.

Senior Frontend Developer

PCCW Global · Mar 2021 – Jan 2022

React TypeScript GraphQL Material UI REST APIs

Delivered solutions for Console Connect, PCCW Global's software-defined connectivity platform, building platform UI and API-integrated workflows for network provisioning and management.

- Developed React and TypeScript applications for cloud connectivity and networking services through API-integrated solutions.
- Designed and maintained a reusable UI component library that improved consistency and accelerated delivery across multiple products.
- Collaborated closely with designers and backend engineers to deliver responsive, maintainable platform interfaces balancing user experience with engineering quality.
- Established reusable component patterns that improved long-term maintainability across the platform.

Senior Front-end Developer

Virgin Australia · Sep 2020 – Mar 2021

React JavaScript Accessibility (WCAG) REST APIs

Developed high-traffic, customer-facing React applications for Virgin Australia's online booking system, delivering accessible and responsive user experiences across aviation platforms.

- Built React-based booking interfaces enabling customers to search, select, and purchase flights through Virgin Australia's online booking system.
- Worked closely with product managers, designers, and engineers to deliver features aligned with business goals and customer needs.
- Applied accessibility best practices and responsive design principles to improve usability across high-traffic customer-facing React interfaces.
- Improved quality through reusable components, maintainable code, and consistent implementation across the booking platform.

Frontend Developer

Flight Centre · Mar 2019 – Sep 2020

React Material UI Cypress JavaScript

Developed customer-facing travel applications using React, contributing reusable components, Cypress testing, and engineering quality across enterprise travel systems.

- Built reusable React components shared across multiple customer-facing enterprise travel applications.
- Introduced Cypress end-to-end testing alongside unit testing to improve release confidence and application reliability.
- Worked closely with UX designers to translate customer journeys into responsive, maintainable experiences.
- Delivered reliable features while contributing to reusable engineering practices and consistent implementation across multiple products.

Frontend Developer

FlyFreely · Jul 2018 – Mar 2019

Contributed to early aviation workflows across web and mobile product environments.

Mentor / Reviewer / Frontend Developer

Udacity · Feb 2017 – May 2018

Provided structured technical mentorship and project reviews across frontend and UX nanodegree programs. Code Reviewer (Aug 2017 – May 2018), Mentor (Sep 2017 – Mar 2018), Frontend Developer / UI Designer (Feb 2017 – Jan 2018).

Frontend Developer / Optimisation Consultant

Biarri · Jun 2016 – Jul 2017

Developed and maintained the Austrex livestock management web app using AngularJS and Bootstrap. Improved complex export workflows and responsive interfaces for field users.

Frontend Developer

Desygnr · Feb 2016 – Apr 2016

Frontend development internship contributing to design tooling and web product interfaces.

Trainee and Developer

Supreme Court · Feb 2014 – Dec 2014

Software development traineeship supporting court systems and internal tooling in Brasília.

EDUCATION

Master of Science in Artificial Intelligence (In Progress)

Udacity / Woolf

2026 – Present

Bachelor of Computer Science

Catholic University of Brasília

2008 – 2014

PROFESSIONAL TRAINING

Anthropic

- Building with the Claude API
- Claude Code in Action
- Introduction to agent skills
- Introduction to Model Context Protocol

Udacity

- Frontend Developer Nanodegree
- User Experience Design Nanodegree
- React Developer Nanodegree
- Senior Web Developer Nanodegree
- Foundation of Generative AI

SELECTED PROJECT



PatternForge

Personal chess training application designed and built end-to-end in React and TypeScript.

- Designed and developed the React application with clear module boundaries, state management, and workflow design for training sets, cycles, and sessions.
- Implemented local-first persistence so progress, review paths, and study sessions remain reliable offline and support long-term maintainability.
- Built learning experience flows—mistake review, cycle comparison, and session continuity—that structure pattern recognition practice for sustained improvement.

Project link <https://alanmortoni.dev/projects/patternforge>