

Tony Melek

Senior Full Stack / Frontend Engineer | React · TypeScript · Platform

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SUMMARY

Senior Frontend / Full Stack Engineer specialising in platform-scale React and TypeScript, shell/miniapp architectures, and GraphQL BFFs. Currently selected into a small proof-of-value cohort alongside principal engineers to evaluate monorepo and pod strategy and integrate TanStack applications into a React-based host shell — including auth integration and least-privilege scope decisions. Proven at owning complex features end-to-end, mentoring engineers, and shipping production systems with automated testing and AI-assisted delivery.

TECHNICAL SKILLS

Frontend	React, TypeScript, TanStack (Start/Router), Vue 3, Redux, HTML/CSS/SCSS, Vite
Backend	Node.js, GraphQL (BFF), REST, Java (familiar), Go (familiar)
Cloud	AWS (API Gateway+), Firebase, Netlify, CI/CD (Jenkins, Harness, CircleCI)
Quality	Jest, Cypress, SonarQube/Snyk, Git, accessibility-minded delivery
Practices	Modular FE architecture, testing, AI-assisted SDLC (Cursor, coding agents)

WORK EXPERIENCE

National Australia Bank

Jul 2022 – Present

Senior Analyst Engineer

Melbourne, VIC

- Selected into a small proof-of-value cohort alongside principal engineers on a digital banking modernisation program — assessing pod topology, monorepo strategy, and TanStack versus React for frontend delivery.
- Led integration of TanStack applications into an internal platform shell that natively hosts React miniapps, including server-side rendering consumed as React inside the host, using AI-assisted tooling to accelerate exploration without giving up design ownership.
- Drove auth-integration decisions for the TanStack path: preserved existing tokens and auth strategy while redesigning how authentication plugs into the shell; enforced least privilege by scoping OAuth/API permissions per module instead of a single broad-scoped application.
- Led architecture and delivery of modernisation POCs; defined scalable frontend/system patterns adopted across squads.
- Designed a modular React architecture with multiple independent entry points, enabling parallel delivery across 3 squads with minimal merge conflict.
- Orchestrated migration to a new shell architecture, improving performance and maintainability of the digital platform.
- Mentored engineers, facilitated design sessions, and raised code quality through review and shared frontend practices.

National Australia Bank

Jul 2021 – Jun 2022

Analyst Engineer

Melbourne, VIC

- Built a GraphQL Backend-for-Frontend (BFF) to optimise data fetching, improve frontend performance, and cut unnecessary network calls.
- Led early architecture and delivery of the Pay-to-Agreements miniapp for a complex payments feature.
- Delivered production React + TypeScript UIs from UX designs, with accessibility and responsive behaviour as first-class concerns.
- Established automated unit and integration testing, improving reliability during rapid releases.

Envision Labs

Mar 2021 – May 2021

Full Stack Developer

Melbourne, VIC

- Delivered a full-stack insights feature (AWS API Gateway + frontend visualisations) from concept to staging in 8 days.
- Built a real-time analytics dashboard and Node/PostgreSQL APIs with Redux-managed UI state.

SELECTED PROJECTS

Coptic Language Tools · TypeScript monorepo · tonymelek.github.io/coptic-language

- Shipped Unicode conversion, pronunciation (EN/AR), dictionary search, and on-screen Coptic keyboard as a public web product.

- Published reusable npm packages (coptic-readings, bible-citation-text) so calendar/readings and bilingual scripture can be consumed as libraries/SDKs.
- Built Coptic Synaxis (Vue 3 + Vite): liturgical calendar, daily readings, and bilingual Bible viewer on those packages.

Meltek Bookkeeper · WhatsApp + Gemini + Firebase

- Built an LLM pipeline: receipt/invoice images → structured merchant/ABN/GST data → ABN enrichment → categorised transactions with human-in-the-loop approval before reconciliation.

Heavenly Healing clinic CMS · Vue + Firebase + Handlebars

- Built a publish pipeline so the clinic updates content via Vue admin → Cloud Functions → Handlebars-rendered static HTML (no engineering per content edit).
- Implemented multi-role Firebase access (manager/admin/super-admin), secured APIs, and user provisioning for the client's admin team.

EDUCATION

Bachelor's — Electronics & Communication Engineering · Member, Engineers Australia

Full Stack Development Certificate — Monash University

Udacity Nanodegrees — Professional Web Development; Data Analyst; Advanced Cloud DevOps