Callum Thomas

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Software Engineer

Overview

Personal I am a Traffic Engineer turned Software Engineer who is passionate about the dynamic and fast-changing world of technology. With a strong background in engineering and finance, I bring a unique perspective to the field of coding, combining my analytical mindset, problem-solving skills, and commitment to continuous learning. I am eager to step into the world of software engineering and be a part of creating exciting and impactful projects.

Portfolio www.callumdavidthomas.com

Education ***University of Auckland, 2015***

- Bachelor of Engineering (hons), Civil and Environmental
- Bachelor of Commerce, Finance & Commercial Law

Software Engineering Projects

TrafficTools – Founder   Current

Traffic Tools is a personal project of mine where I have created a free online tool for use by anyone within the town-planning industry. This web application aims to provide common tools and calculators to assist professionals and laypeople to undertake high-level traffic engineering analysis, while encouraging innovation and knowledge-sharing within the profession.

In developing the Traffic Tools web application, I have demonstrated my understanding of and application of web development frameworks. I built Traffic Tools using **next.js** with **typescript**, Google-**firebase** for user authentication, and **Chakra-UI** for my component library.

This web application features a forum with complete CRUD functionality and user authentication, while the other tools feature a wide range of react.js principles including component-based architecture, state management, next.js router, data-fetching, callback functions, and responsive design.

The completed application can be found online at www.traffictools.com.au and I would be happy to answer any questions related to it or provide code examples as required.

CentreSafe – Founder, Technical   2021

CentreSafe is a risk management service created for use by large companies and NGOs. The CentreSafe portal allows users to quickly understand where the critical risks lie within their organisation, and to forecast upcoming risks.

I built CentreSafe using the LAMP software stack, which includes **PHP**, **MySQL** and hosting via **AWS**. The application uses the MVC framework which allows a modular approach to programming and segments the backend and frontend development processes.

While working on the CentreSafe webapp I have gained an understanding of the business side of software development having led startup pitches, collaborated with internal team members and demonstrated the use of agile methodologies.

Other

- Excel and VBA data analytics, macros, sanitisation, etc.
- Completed CodeAcademy courses in the following: PHP, mySQL, HTML, CSS, JavaScript, ReactJS.

Amber Organisation – Senior Traffic Engineer   *2021 - 2023*

As a Senior Traffic Engineer at Amber Organisation, I successfully led and managed a wide range of traffic engineering projects for diverse clients. With a keen focus on delivering high-quality solutions, I oversaw traffic management plans, transportation studies, and traffic impact assessments. My expertise and guidance played a crucial role in developing effective traffic engineering strategies aligned with industry standards and best practices.

In my role, I demonstrated strong project management skills and business understanding. I ensured strict adherence to project timelines and budgets while maintaining excellent communication with clients. Notably, I spearheaded a major subdivision project, developing new analysis techniques and communicating these to council and government authorities. Through my proactive approach and attention to detail, I successfully completed projects on time and within budget, earning the trust and satisfaction of clients.

I showed extensive technical expertise in my role, utilising advanced traffic modelling techniques and software tools to analyse traffic flow, optimise signal timings, and conduct capacity analyses. Additionally, I have excelled in stakeholder engagement, effectively communicating technical findings and recommendations to diverse audiences, including non-technical stakeholders and senior management.

Cardno – Project Engineer   *2019 – 2021*

- Client-facing role providing traffic and transport consultation to public and private clients.
- Broad scope of traffic engineering services including traffic and transport assessments, risk assessments and RSAs, traffic impact assessments, SIDRA modelling, FLPs and swept paths, movement and place assessments, transport strategies, and traffic management plans.
- End-to-end project delivery and client relationship management.