

Logan Walsh

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Education

University of Auckland

Bachelor of Science, Majoring in Computer Science

March 2023 – November 2025

Auckland, New Zealand

- Relevant skills: Object-Oriented Programming, Data structures, Algorithms, SQL & Database management, Version control, Agile & Scrum, CI/CD Pipelines, Testing & Debugging, API Development.
- Grade Average: 7.9/9
- Major Awards: First in Course (COMPSCI 101), First in Course (COMPSCI 130)

Experience

Software Engineer Intern

Promptech

July 2025 – November 2025

Auckland, New Zealand

- Collaborated within a six-member team using Agile methodologies to design, develop, and deploy an AWS-hosted GenAI playground platform for educational and workshop use.
- Developed and integrated PostgreSQL databases and FastAPI service layers with React Typescript components, enabling efficient data flow and responsive UI updates.
- Built and maintained secure RESTful APIs supporting the frontend, backend and wallet payment features.
- Integrated Stripe's payment gateway for top-ups, implemented balance tracking and per-request credit deduction.
- Contributed across the full stack, enhancing user experience, data reliability, and overall system performance.

Teaching Assistant

University of Auckland

July 2024 – November 2025

Auckland, New Zealand

- Assisted in scheduled labs for COMPSCI 130: Introduction to Software Fundamentals, covering object-oriented programming, data structures, and algorithms.
- Provided personalized guidance to students by clarifying concepts, answering questions, and assisting with complex problems to strengthen problem-solving skills and practical coding application.

Software Specialist Intern

Business Continuum

January 2024 – February 2024

Melbourne, Australia

- Consulted with clients to discuss database refactoring, management, and financial system optimization.
- Led a project from discovery to delivery, planning and assisting with process design workshops, client reviews, and training sessions.
- Configured management and financial systems to enhance operational efficiency for clients.
- Provided live support and training, both on-site and remote to ensure customer success and satisfaction.

Projects

RISC-V Virtual Machine | C, React, Electron, Node.js

- Built a RISC-V Virtual Machine using the RV32I base instruction set, implementing 33 instructions with full memory management, custom dynamic allocation using heap banks, and memory-mapped I/O virtual routines.
- Created a custom heap allocator that manages 128 memory banks with support for malloc/free operations, including boundary checking, consecutive bank allocation, and memory safety guarantees.
- Developed a simple Electron-based GUI debugger with React frontend, providing real-time VM execution, I/O communications, register visualisation and automatic binary compilation.

Stock/Crypto Trading Simulator | Go, Redis, React

- Integrated Finnhub and Yahoo Finance APIs to fetch real market data for selected stocks and cryptocurrencies.
- Implemented caching with Redis to store data when API rate limits were reached or when new data was unavailable, improving performance and reducing latency.
- Built a dynamic UI that allows users to track price movements, simulate trades, and analyse trends in real time.

Technical Skills

Languages: Python, C, Go, JavaScript, HTML/CSS

Frameworks: React.js, Node.js, Electron.js, Flask, FastAPI, REST APIs, .NET Core

Databases: PostgreSQL, SQLite, Redis

DevOps & Tools: Unix/Linux, Git, AWS, Docker, CI/CD, Agile