

James Bao

@ james@jamesnzl.xyz

+64 22 410 1580

Auckland, New Zealand

in /JamesNZL

/JamesNZL

jamesnzl.xyz

Career Objective

I am **chasing an internship** to grow my love for everything from **analogue electronics** to **full-stack web development**.

I love active problem-solving, and **tinkering** around with an ever-evolving project until it is exactly right. I enjoy learning & seeing how technology can be applied to **improve human lives**—whether through hardware, software, or a **beautiful combination of both**.

I am a driven, reliable team player with proven leadership skills and a knack for effective communication. I am always looking to learn new things and grow as a person—and I apply this mindset to everything I do.

Skills Summary

Problem Solving

- ▶ I am a natural problem solver, and **apply** my strong **logical thinking** to challenging situations. I leave things **better than I found them**, working methodically to arrive at an optimal solution.
- ▶ I have created a personnel development framework, and implemented a digital workspace to consolidate data, administration, and procedures into a single source of truth.

Communication Skills

- ▶ I am an effective communicator with an aptitude for **breaking down challenging concepts**.
- ▶ I help appreciative first-years with **intuitive explanations** for difficult, technical concepts. I also tutored English, Maths, and Science at high school.
- ▶ I have acquired experience in presentation skills, public speaking, and self-confidence through my New Zealand Cadet Forces development courses.

Leadership

- ▶ I am passionate about intent-based leadership and **understanding** each member's **strengths and weaknesses**—I strongly believe the whole is greater than the sum of its parts.
- ▶ I was a Prefect and Deputy House Captain at high school, a Cadet Warrant Officer Class Two in the NZCF, and led the House Haka in Years 11–13.
- ▶ I was appointed to be the Regimental Sergeant Major for a highly successful Recruit Training Course with units from across the Upper North Island.

Teamwork

- ▶ I strive to **be an asset** to any team, and try to morph into whatever role is in demand. I am often counted on for my punctuality and reliability—I **do not make promises I cannot keep**.
- ▶ I was a member of my high school's Premier Lacrosse and Premier Target Shooting teams, and know the importance of teamwork and collective buy-in.

Experience Summary

Course Cadet Staff

New Zealand Cadet Forces

Jul 2021

Auckland, NZ

Freelance Software Developer

2020 – 2021

Education

Bachelor of Engineering (Honours)

The University of Auckland

2021 – 2024

- ▶ Specialising in **Computer Systems** Engineering
- ▶ Cumulative GPA of 8.2/9.0 (A)

Detailed Experience

Course Cadet Staff

New Zealand Cadet Forces

Jul 2021

Auckland, NZ

- ▶ Selected to staff the Northern Area Junior Non-Commissioned Officer's Course 04/21
- ▶ A mentor and **role model** to the course of 50+ students
- ▶ Aided Directing Staff in **training delivery**, student assessment, and welfare management
- ▶ Maintained **morale** and esprit de corps
- ▶ Applied my instructional technique and leadership skills to deliver a 'very efficient Final Parade'

Freelance Software Developer

2020 – 2021

- › Back-end development with JavaScript, **Node.js**, and **MongoDB**
- › Built a custom Discord bot tailored to streamline **digital order management** and processing

Technical Skills

TypeScript/JavaScript

- › Front-end **browser** and back-end **Node.js** applications
- › Object-oriented and functional patterns
- › **async/await**, Promises, and callbacks
- › **Serverless functions** with Next.js and Cloudflare Workers

Electronics and Embedded Systems

- › Analogue **circuit & PCB design** learnt through practical application
- › Extensive **hands-on** experience with **soldering** and using **multimeters** & **oscilloscopes**
- › Familiarity with **LTspice**, Microchip Studio, Proteus VSM, and EasyEDA
- › Experience writing **firmware** for **Arduino** and ATmega328PB **Xplained Mini**

Git/GitHub

- › Usage of **feature branches**, pull requests, issues, and GitHub Actions
- › **3000+ contributions** accrued over the past **4 years**

Other Languages I am also familiar with **C/C++**, and have limited experience in **Python**, **Java**, and **MATLAB**.

Project Experience

notion-assignment-import

2022

jamesnzl.xyz/notion-assignment-import

- › **Cross-browser** extension that loads Canvas assignments into a Notion database
- › **60+ users** in under **two months**
- › Variety of tools including **Gulp**, Browserify & ESBuild, **Sass**, and PostCSS
- › Learnt more about **APIs**, HTTP and HTTP clients, and **OAuth2**
- › Git and GitHub
- › Sass and PostCSS
- › Insomnia
- › TypeScript, HTML
- › Gulp, Browserify, and ESBuild

Smart Energy Monitor

2022

uoa-ece209.github.io

The University of Auckland

- › **Smart energy monitor** I am currently designing in a **group of four**
- › Involves analogue **circuit & PCB** design, signal conditioning, using an **ATmega328PB**, writing **firmware** drivers, serial communication, and Bluetooth communication
- › Git and GitHub
- › Microchip Studio
- › Altium Designer
- › LTspice
- › Proteus VSM

Automatic Peg Cleaner

2020

jamesnzl.xyz/13cte

Westlake Boys' High School

- › **Self-directed** Year 13 Control Technology project
- › Learnt about **embedded systems**, MOSFETs, capacitors, diodes, **circuit and PCB design**, 3D modelling, 3D printing, and **firmware development** through **practical application**
- › Arduino
- › AutoCAD
- › EasyEDA

Pronto

aucklandarmycadets.github.io/Pronto

2020 – 2021

City of Auckland Cadet Unit

- › Full-featured Discord bot to **streamline** Unit **procedures**
- › Comprehensive **codebase documentation** with **JSDoc**
- › Experimenting with **Cloud Computing** services including DigitalOcean, Linode, Vultr, and currently **Oracle Cloud**
- › JavaScript, Node.js
- › MongoDB
- › JSDoc
- › Virtual Private Servers
- › SSH, Bash, Unix CLI

Unit Website

github.com/aucklandarmycadets/aucklandarmycadets

2022

City of Auckland Cadet Unit

- › A **modern, performant website** to overhaul my Cadet Unit's online presence
- › Serverless functions with both **Next.js** and **Cloudflare Workers**
- › Created my **own CDN** to cache Notion's ephemeral images and **optimise performance**
- › Experience in managing **DNS records**, administering Google Search Console, and enhancing **SEO**
- › Next.js (and React) with Vercel
- › Serverless functions
- › DNS Records, SEO

Other Projects More projects can be found on my [GitHub profile](#).

Achievements

2021

- › **First in Course Award** for ENGGEN 131: Introduction to Engineering Computation and **Software Development**

Pre-2021

- › Bayonet of Honour
- › Cadet Warrant Officer Class Two
- › Top of Course Award
NZCF Senior Non-Commissioned Officer's Course
- › School Prefect and Deputy House Captain
- › First in Level 3 Calculus
- › First in Level 2 Physics
- › First in Level 2 Programming

Interests

Outdoors I have a deep love for the outdoors, and find it an amazing outlet to recharge my batteries.

Teaching I find immense satisfaction in teaching and mentoring other people—crafting coherent, intuitive explanations for difficult and technical concepts and seeing the all-rewarding lightbulb moment.

Te Ao Māori I care deeply about Te Ao Māori, and enjoy engaging with the indigenous culture & language of Aotearoa New Zealand.

Youth Development I am passionate about youth development, and I am currently an Officer Cadet in the New Zealand Cadet Forces. I was previously a cadet for 5 years, including 17 months as a Cadet Warrant Officer Class Two.

References

Captain James Green, NZCF

james.green@cadetforces.org.nz or +64 21 101 8020

Cadet Unit Commander
City of Auckland Cadet Unit

James has been a **significant mentor**, and has heavily **guided** my growth as a person.

Rebecca O'Gram

rog@westlake.school.nz

Associate Principal
Westlake Boys' High School

Rebecca was my Year 13 Calculus **teacher**, and is one of the **most influential** teachers I have ever had.

Matua Johnny Waititi

jwa@westlake.school.nz or +64 20 410 53400

Te Kaihautū o Te Puna
Westlake Boys' High School

Matua Johnny was my Te Reo Māori **kaiako** and **form teacher**, and has also played a **pivotal** role in my life.