

# James Bao

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## Career Objective

I am **chasing opportunities** to grow my love for everything from **analogue electronics** to **full-stack web development**. I love active problem-solving and **tinkering** until something is exactly right. I want to **improve human lives**—whether through software, hardware, or a **beautiful combination of both**. 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 **apply** my strong **logical thinking** to challenging situations, and leave things **better than I found them**.

### Communication Skills

- I am an effective communicator with an aptitude for **breaking down challenging concepts**.

### Leadership

- I am passionate about intent-based leadership and **understanding** each member's **strengths and weaknesses**.

### Teamwork

- I strive to **be an asset** to any team. I am known for my reliability—I **do not make promises I cannot keep**.

## 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

### C/C++

- Familiarity with **Arduino**-flavoured C++ and standard C
- Learnt through **projects** in high school and University Engineering courses
- Currently using C to develop **firmware drivers** for an **ATmega328PB**
- Used Arduino C++ for simple sensor reading and **peripheral control** functionality

### Git/GitHub

- Git version/source control and GitHub project management
- Usage of **feature branches**, pull requests, issues, and GitHub Actions
- 3000+ contributions** accrued over the past **4 years**

**Other Languages** I also have limited experience in **Python**, **Java**, and **MATLAB**.

## Project Experience

### notion-assignment-import

2022

[jamesnzl.xyz/notion-assignment-import](https://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
- › TypeScript, HTML
- › Sass and PostCSS
- › Gulp, Browserify, and ESBuild
- › Insomnia

### Smart Energy Monitor

2022

[uoa-ece209.github.io](https://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
- › LTspice
- › Microchip Studio
- › Proteus VSM
- › Altium Designer

### Pronto

2020 – 2021

[aucklandarmycadets.github.io/Pronto](https://aucklandarmycadets.github.io/Pronto)

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

2022

[github.com/aucklandarmycadets/aucklandarmycadets](https://github.com/aucklandarmycadets/aucklandarmycadets)

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 love crafting intuitive explanations for difficult, technical concepts—and seeing the lightbulb moment.

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

**Youth Development** I am an Officer Cadet in the New Zealand Cadet Forces. I was previously a cadet for five years, including 17 months as a Cadet Warrant Officer Class Two.

## References

### **Captain James Green, NZCF**

[james.green@cadetforces.org.nz](mailto:james.green@cadetforces.org.nz) or +64 21 101 8020

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

Cadet Unit Commander  
City of Auckland Cadet Unit

### **Rebecca O'Gram**

[rog@westlake.school.nz](mailto:rog@westlake.school.nz)

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

Associate Principal  
Westlake Boys' High School

### **Matua Johnny Waititi**

[jwa@westlake.school.nz](mailto:jwa@westlake.school.nz) or +64 20 410 53400

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

Te Kaihautū o Te Puna  
Westlake Boys' High School