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)   2021 – 2024
The University of Auckland

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

💼 Experience

Course Cadet Staff   Jul 2021
New Zealand Cadet Forces   *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
jamesnzl.xyz/notion-assignment-import   2022

- ❯ **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
uoa-ece209.github.io   2022
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
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 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   Cadet Unit Commander
james.green@cadetforces.org.nz or *+64 21 101 8020*   *City of Auckland Cadet Unit*

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

Rebecca O'Gram   Associate Principal
rog@westlake.school.nz   *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   Te Kaihautū o Te Puna
jwa@westlake.school.nz or *+64 20 410 53400*   *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.