

James Bao

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Auckland, New Zealand

in /JamesNZL

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Career Objective

I am **chasing opportunities** to grow my love for **analogue electronics** and **embedded systems**.

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 software, hardware, 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.

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**—I strongly believe the whole is greater than the sum of its parts.

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**.

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

C/C++

- › Familiarity with **Arduino**-flavoured C++ and standard C
- › Learnt through high school Control Technology 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 am also highly proficient in **TypeScript/JavaScript**, and have limited experience in **Python, Java**, and **MATLAB**.

Project Experience

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

Automatic Peg Cleaner

jamesnzl.xyz/13cte

2020

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

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

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

Interests

Youth Development I am passionate about youth development, and I am currently an Officer Cadet in the New Zealand Cadet Forces. This follows from five years as a cadet, including 17 months as a Cadet Warrant Officer Class Two.

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.

References

Captain James Green, NZCF

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

James has been a **significant mentor** to me, and has heavily **guided** my development whilst a member of the NZCF.

Rebecca O'Gram

rog@westlake.school.nz

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

Matua Johnny was my Te Reo Māori **kaiako** & subsequent **form teacher**, and is another teacher that has played a massively pivotal role in my life.

Cadet Unit Commander

City of Auckland Cadet Unit

Associate Principal

Westlake Boys' High School

Te Kaihautū o Te Puna

Westlake Boys' High School