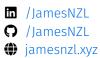
James Bao

james@jamesnzl.xyz +64 22 410 1580 Auckland, New Zealand



© Career Objective

I am chasing an internship to grow my passion for analogue electronics and embedded systems.

I want to **improve human lives**—whether through hardware, software, 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

> Lapply 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

> Computer Systems Engineering

> Cumulative GPA of 8.3/9.0 (A-A+)

> Dean's Honours List

Experience

Embedded Software Engineer Intern

Nov 2022 – Mar 2023

Windcave Ltd Auckland, NZ

- > Writing C/C++ firmware on a new STM32U585 ARM development board
- > Rapid prototyping of external QSPI and OSPI flash memories
- > Creating a simple Point of Sale system on CHU200TP payment terminal

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

P Technical Skills

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 Altium Designer
- > Experience writing firmware for Atmel megaAVR and ARM Cortex-M33

C/C++

- > Experience with **C** and Arduino-flavoured C++
- > Learnt through **projects**, University Engineering courses, and **industry**
- > Used C to develop OSPI memory drivers for an STM32U585
- Used Arduino C++ for simple sensor reading and actuator control functionality

Git/GitHub

- > Fluency with **feature branches**, pull requests, issues, and GitHub Actions
- **> 5300+ contributions** accrued over the past **5 years**

Other Languages I am also highly proficient in TypeScript/JavaScript, and have familiarity with VHDL, C#, Python, Java, and MATLAB.

Smart Energy Monitor 2022

cs209.jamesnzl.xyz

- > Smart energy monitor I designed in a group of four **Lecturer's Choice** for **top team** out of all 40 teams
- > Analogue circuit & PCB design, signal conditioning, using an ATmega328PB, writing firmware drivers, and UART & **Bluetooth** communication
- ▶ Git and GitHub

▶ Microchip Studio

▶ Altium Designer

▶ LTspice

▶ Proteus VSM

Flappy Bird 2023

jamesnzl.xyz/compsys305-flappy-bird

The University of Auckland

The University of Auckland

- > An FPGA implementation of Flappy Bird built in a team of three
- > Played on a Cyclone V FPGA with a PS/2 mouse, DIP switches, and pushbuttons
- ▶ Git and GitHub ▶ VHDL ▶ Altera Quartus Prime

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

Other Projects More projects can be found on my GitHub profile.

P Achievements

- First in Course Award for ELECTENG/COMPSYS 209: Analogue and Embedded Firmware Design
- > First in Course Award for ENGGEN 131: Introduction to Engineering Computation and Software Development
- > Dean's Honours List 2022

> School Prefect and Deputy House Captain

> Bayonet of Honour

> First in Level 3 Calculus

> Top of Course Award

- > First in Level 2 Physics
- NZCF Senior Non-Commissioned Officer's Course
- > First in Level 2 Programming

9 Passions

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 embracing the indigenous culture & language of Aotearoa New Zealand.

Youth Development 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.



Weili Liu Embedded Development Manager

weili.liu@windcave.com Windcave Ltd

Weili has been a **significant mentor** and **guided** me closely during my internship.

Duleepa J Thrimawithana

Senior Lecturer

d.thrimawithana@auckland.ac.nz

The University of Auckland

Duleepa invited me to be a COMPSYS 209 Teaching Assistant and to assist with his Smart Car workshop at Mānawa Mai Open Day, based on my technical proficiency and communication skills.

Matua Johnny Waititi

Te Kaihautū o Te Puna

jwa@westlake.school.nz

Westlake Boys' High School

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