Ivan Fateev

Auckland, NZ | P: +64 27 203 2304| E: ivan.fateev.nz@gmail.com | https://linkedin.com/in/ivanf-nz

SUMMARY

I'm a Computer Systems Engineering student at the University of Auckland, focused on building practical hardware and software solutions. I enjoy tackling challenges involving microcontrollers, low-level programming in C++ and Python. I'm comfortable stepping into unfamiliar areas and pick up new concepts quickly through hands-on learning. Whether it's working with embedded systems or developing custom hardware, I'm eager to apply and grow my skills through real-world projects.

EDUCATION

UNIVERSITY OF AUCKLAND

Bachelor of Computer Systems Engineering (Honours)   *Expected Nov 2027*

Cumulative GPA: 8.33/9; **2024 Dean's Honours List** (students with top 5% performance or 8.25+ GPA)

Relevant Coursework: Fundamentals of Computer Eng, Object-Oriented Programming, Intro to Eng Computation and Software Development, Fundamentals of Electrical Eng, Electrical and Digital Systems

PROJECTS

1ST PLACE GOVERNANCE CHALLENGE - WEB3 HACKATHON   Solidity, *Chai, Git, Web3*
- Won **1st place** in the Governance Challenge at NZ's first Web3 Hackathon earning $4000 NZD competing against 40% industry professionals by building the backend for our decentralised voting system within 36 hours
- Wrote 8 unit tests to ensure functionality and reliability across code changes and deployments

3D SPATIAL MAPPING SYSTEM   *C++, Arduino, Python*
- Engineered a high-speed 3D spatial mapping system on Arduino UNO, capturing approximately 100,000 points per scan at 250Hz using LiDAR and stepper motors
- Programmed low-level C++ code to control stepper motors via I2C, synchronise LiDAR sampling with motor movement, and implement calibration routines to handle drift and minimise stepper motor errors
- Collected LiDAR data and controlled stepper motor timing using C++ on Arduino, with Python scripts used for point cloud processing, data cleaning, and conversion to .xyz format

PERSONAL PORTFOLIO WEBSITE – https://ivanf.nz   *React, Typescript, Tailwind, Git*
- Built and deployed a custom terminal-style website using Vercel, Next.js, and TypeScript enabling real-time command processing and dynamic rendering of README.md files from GitHub API hosted on a personalised domain
- Ensured responsive design for mobile and desktop with terminal-like interface and managed codebase using Git and GitHub with 50+ commits showing continuous improvements and smooth functionality

3D TO ASCII RENDERER   *Python, Git*
- Built a Python tool to render .obj 3D models as ASCII in the terminal with custom projection, shading, face-sorting, and consistent rotation speed independent of FPS using argument parsing and OOP structure
- Leveraged NumPy for fast transformations and projection, with efficient data storage and robust error handling to support large .obj files

WORK EXPERIENCE

CHILLED/FROZEN ASSISTANT   *Auckland*

New World NZ   *Oct 2022 – Feb 2024*
- Successfully trained 3 new team members on procedures and workflow, ensuring smooth operations and effective collaboration across shifts
- Built solid communication and problem-solving skills dealing with 50+ customers a day, handling questions and resolving issues on the spot

CORE SKILLS & COMPETENCIES

TECHNICAL EXPERTISE: Python, C++, Java, JavaScript, TypeScript, Git, Arduino, ESP32, Fusion 360
PRACTICAL INTERESTS: Underwater Hockey, Water Polo, Adaptability, Prototyping, PCB design, 3D Modelling