Ivan Fateev

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SUMMARY

Computer Systems Engineer who thrives on solving complex problems at the hardware/software intersection, seeking to apply my expertise within an engineering team.

PROJECTS

1ST PLACE GOVERNANCE CHALLENGE - WEB3 HACKATHON Solidity, *Chai, Git, Web3*

- **1st place** against 40% industry professionals in the Governance Challenge at NZ's first Web3 Hackathon, building the backend for a decentralised voting system within **36** hours, earning **$4000** NZD
- Wrote **10+** 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 eliminate 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 *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 **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 command terminal with custom projection, shading and face-sorting using argument parsing and **OOP** structure
- Leveraged **NumPy** for fast transformations, with efficient data storage and robust error handling

EDUCATION

UNIVERSITY OF AUCKLAND

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

Cumulative GPA: 8.33/9; **2024 Dean's Honours List** (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

WORK EXPERIENCE

CHILLED/FROZEN ASSISTANT *Auckland*

New World NZ *Oct 2022 – Feb 2024*

- Successfully trained **3** new team members on procedures and workflow
- Built solid communication and problem-solving skills dealing with **50+** customers a day

CORE SKILLS & COMPETENCIES

TECHNICAL EXPERTISE: Python, C++, Java, JavaScript, TypeScript, Git, Arduino & ESP32

PRACTICAL INTERESTS: Underwater Hockey, Water Polo, PCB design, 3D Modelling