Ivan Fateev

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SUMMARY

I'm a Computer Systems Engineering student at the University of Auckland, focused on creating practical hardware and software solutions. I tackle complex challenges like spatial mapping and decentralised systems, driven by curiosity to explore areas like web development and web3. I'm eager to apply my skills in real-world projects, particularly in embedded systems, hardware development, and web apps.

EDUCATION

UNIVERSITY OF AUCKLAND Auckland, NZ

Bachelor of Computer Systems Engineering (Honours) Expected Nov 2027

Cumulative GPA: 8.4/9; **2024 Dean's Honours List** (students with top 5% performance or 8.25+ GPA)

Relevant Coursework: ENGGEN 131, SOFTENG 281, COMPSYS 201, ELECTENG 291

PROJECTS

BLOCKCHAIN VOTING SYSTEM (WEB3 HACKATHON) March 2025

- 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 just in 36 hours
- Wrote 8 unit tests to validate smart contract functionality across code changes and deployments ensuring reliability

3D SPATIAL MAPPING SYSTEM Nov 2024 – Jan 2025

- Engineered 3D spatial mapping system capturing ~100,000 points per scan at 250Hz for indoor visualisation using LiDAR, stepper motors, I2C communication, and 3D printed gimbal components designed in Inventor
- Programmed motor control and LiDAR data processing pipeline to generate CAD-ready 3D mesh models improving spatial accuracy using Arduino UNO and C++, and Python scripts for data cleaning and conversion to .xyz format

PERSONAL PORTFOLIO WEBSITE – https://ivanf.nz April 2025 - Present

- Built and deployed 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 with Git and GitHub tracking 50+ commits for continuous improvement and smooth functionality

3D TO ASCII RENDERER Dec 2024 – Feb 2025

- Built Python tool to render .obj 3D models as ASCII in the terminal with custom projection, shading, and face-sorting logic, achieving real-time rotation at ~60 FPS
- Leveraged NumPy for efficient vertex data storage and manipulation, enabling fast transformation and projection while implementing error handling for reliable parsing of large .obj files

WORK EXPERIENCE

CHILLED/FROZEN ASSISTANT Auckland

New World NZ Jun 2017 – Sep 2017

- 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 fixing issues on the spot.

CORE SKILLS & COMPETENCIES

TECHNICAL EXPERTISE: Python, C++, Java, JavaScript, TypeScript, Git, Arduino, ESP32, Fusion 360

CORE COMPETENCIES & INTERESTS: Underwater Hockey, Water-Polo, Prototyping, PCBs, 3D Modelling, Adaptability