

FINLEY JOHN NEILSON

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PROFILE

Honours Computer Science student at the University of Auckland doing research in computer graphics and interactive visualization. Passionate about interactive software, computer graphics, and web development projects.

EDUCATION

University of Auckland

Bachelor of Science (Honours), Computer Science | GPA: 8.7 / 9

March 2026 – Present

Auckland, NZ

Victoria University of Wellington

Bachelor of Science, Computer Science and Philosophy | GPA: 7.66 / 9

February 2021 – November 2025

Wellington, NZ

EXPERIENCE

Software Developer (Volunteer)

WDCC - Web Development & Consulting Club

April 2026 – Present

Auckland, NZ

- Collaborating in an Agile environment to build the official Linux User Group website.
- Gaining experience with CI/CD pipelines and automated deployment via GitHub Actions and Docker.

Computer Science Tutor

COMP 112 Introduction to Computer Science

February 2022 – July 2022

Victoria University

- Provided tutoring support to undergraduate students by marking assignments and helping people in labs
- Assisted students with understanding complex concepts by helping them with their coding assignments.
- Received positive feedback for effective teaching methods and clear communication.

Junior Chef

Arcimboldi

October 2021 – Oct 2024

Seatoun, Wellington

- Collaborated effectively with kitchen staff to ensure timely and high-quality meal preparation.
- Demonstrated strong work ethic and ability to perform under pressure in a fast-paced environment.

Junior Chef

Hamilton Gardens Cafe

February 2020 – December 2020

Hamilton, NZ

PROJECTS

Procedural Terrain Generation | C++, OpenGL, GLSL, ImGui

GitHub

- Developed a procedural terrain generation system using fractal Perlin noise functions.
- Implemented real-time terrain parameter tuning through an ImGui interface, enabling interactive experimentation with frequency, amplitude, octaves, and noise layers
- Implemented a thermal erosion simulation to improve terrain realism through iterative height redistribution
- Built a shader-based terrain texturing system blending sand, grass, stone, and snow textures based on elevation

Linux User Group Website | Next.js, TypeScript, Tailwind CSS, Docker

GitHub

- Developing a modern, responsive web application for the LUG community using Next.js and TypeScript.
- Implementing UI components with Tailwind CSS, ensuring a consistent design language across the platform.
- Built a registration form that remains fully functional with JavaScript disabled, per client requirements.

Shape Transform | React, TypeScript, Three.js, Node.js, Express, MongoDB

GitHub

- Built a full-stack 3D spatial-reasoning puzzle game with Three.js rotation gameplay, timers, and a leaderboard.
- Implemented a REST API with JWT authentication and MongoDB for accounts and score tracking, with backend test coverage.

GeoScratch (Honours Research) | Three.js, WebGL, JavaScript, HCI

GitHub

- Developing a perception-driven 3D visualization environment focused on reducing cognitive load and enhancing spatial comprehension of geometric primitives.
- Implementing advanced rendering techniques—including line illumination, occlusion management, and halos—to resolve depth ambiguity and minimize visual clutter in 3D scenes.
- Designing hierarchical keyframe animation systems to visualize mathematical solutions as perceivable transitions rather than static results, facilitating active learning.
- Integrating Blockly with Three.js to create a "construct-and-present" workflow, leveraging pre-attentive processing (e.g., temporal blinking) to guide user attention during complex visualizations.

TECHNICAL SKILLS

Languages: Java, JavaScript/TypeScript, HTML, CSS, Go, C, C++ | **Web:** MERN Stack (MongoDB, Express, React, Node.js), Next.js, TailwindCSS | **Tools:** Git, Neovim, WSL, JetBrains IDEs | **Databases:** PostgreSQL, MongoDB