

Ben Shand

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EDUCATION

Victoria University of Wellington

Wellington, NZ

Bachelor of Engineering with Honours, Majoring in Software Engineering

Feb. 2022 - November 2025

- GPA, Organizations, Coursework, etc.
- Maintained a GPA of 7.1 / 9.0.

WORK EXPERIENCE

Computer Science Tutor

Wellington, NZ

Victoria University of Wellington

July 2023- November 2023

- Provided tutoring in programming across a diverse range of topics to students aged 17 and above.
- Organised personalised catch-up sessions, lessons, and comprehensive reviews with individual students to ensure their academic success.
- Demonstrated the ability to effectively communicate complex topics to students, employing diverse teaching methods to accommodate different learning styles

Project Manager

Wellington, NZ

SWEN225 - Software Design

July 2023- November 2023

- Led a team of software engineering students in developing a game using the Model-View-Controller (MVC) design pattern, ensuring a clear separation of concerns and streamlined maintainability.
- Directed the development of the Model and Persistency modules, which encapsulated the game board's underlying data/logic as well as enabling the saving and loading of complex levels.
- Maintained high team morale and productivity through regular progress meetings, constructive feedback, and effective conflict resolution.

Course Representative

Wellington, NZ

ENGR110 - Engineering Design

July 2022- November 2022

- Acted as a liaison between the lecturer and 100+ students, ensuring effective communication and addressing concerns.
- Facilitated extensions for two major assignments, benefiting over 50 students and improving overall course satisfaction.
- Successfully advocated for a full class remark on the FSM test, resulting in fairer grading and increased student confidence.

EXTRACURRICULAR ACTIVITIES

Chess

June 2022 - Present

Rated 1600 over-the-board

Online / Over-the-board

- Regularly participate in club / online tournaments, study puzzles, and play consistently

Skiing

July 2021 - Present

Craigieburn Valley Ski Area

Craigieburn Forest, Canterbury

- Assist with work parties, including painting and hut upkeep annually

PROJECTS

Wellington Travel Planner | Java, JavaFX, IntelliJ IDEA

- Implemented a comprehensive public transport network router planner for the Wellington Region includes interactive map displays, zooming, and panning functionalities.
- Implemented the A-Star (A*) shortest path algorithm to find the most efficient routes between stops.
- Utilised Kosaraju's algorithm to identify and display strongly connected components within the transport network, providing insights into network connectivity.
- Implemented Tarjan's algorithm to identify articulation points in the network whose removal would disrupt connectivity, aiding in network resilience analysis.
- Designed and structured the program to handle a complex multi-graph with diverse transport modes including buses, trains, ferries, and a cable car.

Trawler's Triumph | Java, Java Swing, JUnit8, IntelliJ IDEA

- Developed a Java Swing-based puzzle game "Trawler's Triumph," inspired by the 1989 game "Chips Challenge".
- Employed the Singleton, Observer, and Factory design patterns extensively throughout the project to facilitate the learning of Java patterns.
- Leveraged Java Swing's components and functionalities, to develop an intuitive, engaging, and visually appealing user interface for the game.
- Conducted comprehensive unit testing using JUnit5 across various modules, using assertions to ensure method correctness, field values, and correct module logic.

TECHNICAL SKILLS

Languages: Java, C/C++, JavaScript, HTML/CSS, PHP, SQL

Developer Tools: Git, Linux, Google Cloud Platform, Vercel, Neovim, VS Code, Visual Studio, IntelliJ, CLion

Libraries: React.js, Next.js, JUnit, Open AI, Matplotlib

OTHER

Clubs/Organizations: Victoria Engineering Club (VEC), Victoria Chess Club, Victoria Snow Sports Club (VUSSC)

Current Courses: COMP261 (Algorithms and Data Structures), ENGR301 (Engineering Project Management 1), SWEN303 (User Experience Engineering), SWEN326 (Safety-Critical Systems)