

Nelith Ranaweera

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EDUCATION

University of Guelph

Honours Bachelor of Computing (Software Engineering)

2021 – 2026

Guelph, ON

EXPERIENCE

Undergraduate Research Intern

University of Guelph – SVI Lab

May 2025 – Present

Guelph, ON

- Documented, developed, and maintained a Node.js application for assessing human colour differentiation in controlled experiments.
- Built REST APIs to handle experiment configuration, data collection, and result storage in an SQLite database.
- Participated in weekly code reviews to ensure alignment with research goals and maintain code quality.
- Collaborated with researchers to develop software tools supporting data collection, analysis, and visualization in colour vision studies.

Undergraduate Teaching Assistant

University of Guelph

September 2024 – December 2024

Guelph, ON

- Providing academic support and clarifying course material for students through email, forums, and office hours.
- Grading course deliverables, ensuring consistent and fair application of grading rubrics.
- Leading lab sessions to provide hands-on guidance to reinforcing key concepts taught in lectures.

PROJECTS

Fullstack Job Search Application | *Docker, Spring Boot, MySQL, Python, Java, React, JavaScript, Google Maps API*

- Created a web scraper using Python's BeautifulSoup library to scrape job listings from Indeed, LinkedIn, and the Canadian Job Bank.
- Built a REST API in Java to handle job search queries, saved listings, and front end data requests.
- Integrated a MySQL database for persistent data storage of scraped jobs, supporting queries for retrieving filtered lists of jobs based on user search inputs.
- Utilized Docker to containerize the application, ensuring a consistent environment during deployment across different devices.
- Developed a responsive React front end that lets users search for jobs by location, role, and salary, and display listings on Google Maps.

Pokemon TCG Portfolio App | *Flutter, Dart, Firebase, Firestore, Android, iOS, Pokémon TCG API*

- Developed a cross-platform mobile app for managing personal Pokémon TCG collections, for Android and iOS.
- Integrated the Pokémon TCG API to fetch real-time market prices, card rarities, and set details.
- Implemented custom features such as deck building, wishlists, advanced filtering, and portfolio value tracking.
- Used Firebase and Firestore for real-time database updates and user authentication across devices.

Battlesnake Machine Learning | *Python, Scikit Learn, SVM, Decision Trees, Neural Networks, AWS*

- Developed a machine learning model to emulate the decision making behavior of a top performing player in the Battlesnake game competition.
- Processed a dataset of 14,000 game frames, extracting strategic features such as snake positions, distances to collectibles, and movement constraints.
- Replicated the behavior by training models such as SVMs, Decision Trees, and Neural Networks on gameplay data with the best model achieving a 90% accuracy.
- Deployed the trained AI on an AWS server to evaluate its performance in real Battlesnake competitions.

TECHNICAL SKILLS

Languages: C, Python, Java, C#, JavaScript, Dart, SQL, HTML/CSS

Frameworks: React, Flutter, Spring Boot, JUnit, Scikit Learn, AWS

Methodologies: Unit Testing, Object-Oriented Programming, CI/CD Pipelines

Developer Tools: Git, Docker, Firebase