

Du Han

handu2023@outlook.com | 437-970-6186 | [linkedin.com/in/handu332/](https://www.linkedin.com/in/handu332/) | github.com/DuHan332 | duhan332.github.io/

PROFESSIONAL EXPERIENCE

Sensequake | *Software Engineer Internship* – Montreal, QC

May. 2024 – Aug. 2024

- Developed interactive web visualization tools for structural data, improving usability for engineers and analysts.
- Enhanced core application features using Node.js and JavaScript, delivering better performance and functionality.
- Optimized AWS cloud infrastructure, including EC2 task scheduling, SNS message flow, and Lambda execution.
- Collaborated cross-functionally with QA and engineering teams to align technical improvements with user needs.

EDUCATION

McGill University – Montreal, QC

Master of Science, Computer Science

Graduated Spring 2025

Cumulative GPA: 3.81 / 4.0

University of Toronto – Toronto, ON

Honours Bachelor of Science, Statistics (Machine Learning and Data Mining Stream)

Graduated Spring 2023

Cumulative GPA: 3.57 / 4.0

TECHNICAL SKILLS

Languages: Java, JavaScript, HTML, C, C#, C++, Python, MATLAB, R, R markdown, SQL

Technologies/Frameworks: React, Typescript, MySQL, SQLite, NoSQL, CSS, ROS, Unity, Flask, Node.js, Docker, AWS

Fundamentals: Data Structure, Object-Oriented Design, Machine Learning Algorithms, Reinforcement Learning, OS

PERSONAL PROJECTS

[Resume/CV Generator](#) – Tauri (Python/ReactJS/TypeScript/Rust) – *Personal Side Project* – 2025

- Built a cross-platform resume editor with dynamic form generation using React, TypeScript, and Tauri.
- Implemented robust state management for 30+ customizable input fields to enhance UX and reliability.
- Designed a dynamic form builder that allows users to generate resumes in under 4 minutes on average.
- Created a Rust-based PDF rendering backend that exports documents in 0.45 s, 7× faster than a Python prototype.

[Web Page With Database](#) – Web Page (Flask/SQLite/HTML/CSS/JavaScript) – Course project – 2020

- Designed and deployed a full-stack web application with role-based access control using Flask and SQLite.
- Built 20+ unit and integration tests, maintaining 80% test coverage to reduce risks and ensure safe updates.
- Implemented responsive front-end pages (HTML/CSS/JavaScript) and interactions for real-time feedback.
- Maintained and enhanced core features across 10+ iterations in an Agile environment, incorporating feedback from sprint reviews, stand-ups, and team retrospectives to drive continuous improvement.

[Comparison of Deep Reinforcement Learning Algorithms on Video Games](#) – Python (PyTorch/OpenAI Gym/Jupyter) –

Personal Side Project – 2024

- Trained a Mario agent that cleared World 1-1 in about 60 seconds, outperforming 80 % of casual human players.
- Designed a benchmarking framework to compare 4 Reinforcement Learning agents, processing 50 M+ frames.
- Analyzed impact of various optimizer/loss changes; yielded a ~90 % increase in average reward over the baseline.
- Optimized performance by refactoring the environment setup and Q-value estimation function, improving maintainability.

[Optical Character Recognition](#) – C – *Personal Side Project* – 2022

- Designed and implemented a feedforward neural network from scratch in C (2 hidden layers, ~25K parameters).
- Trained the model on 60,000 28×28 grayscale images, achieving ~95 % test accuracy on a 10,000-image dataset.
- Implemented tools for generating precision-recall metrics and heatmaps of false positives/negatives, improving debugging efficiency by 50% compared to manual error inspection.

Languages

English, Mandarin