

Avery Simmons

1734 Lulie St, Victoria, BC, Canada
778-676-2623

a.simmons.college2023@gmail.com
github.com/AverySimmons

Education

University of Victoria — 2023 - Present - Victoria, BC, Canada

Bachelor of Computer Science in progress
Current 3.7 GPA

Headwaters School — 2020 - 2023 - Austin, Texas, United States of America

High School Diploma awarded May, 2023
International Baccalaureate Diploma awarded July, 2023
Honor Roll, 10th-12th Grade

Professional Summary

Passionate and self-motivated programmer with a profound love for game development and machine learning, stemming from a lifelong obsession with learning and automation. Looking to gain experience and meet interesting people.

Skills

Godot Game Engine / GD Script
Java
Game Design
Algorithm Optimization

C/C++
HTML/CSS/JavaScript
Test Driven Development
Communication

Python
Git
Amazon Web Services
Machine Learning

Projects

Pac-Man Horror Game

A creepy twist on the classic retro game Pac-Man built in the Godot game engine.

- Created a unique enemy AI to build tension
- Used sound design and lighting to create a stressful atmosphere
- Designed custom logic utilizing inverse kinematics to create a monster

(<https://github.com/AverySimmons/Scary-Pac-Man/blob/main/README.md>)

Deep Learning From Scratch

Reinventing the deep learning wheel entirely from scratch in C, with comprehensive test coverage.

- Manual memory management, custom neural network structures with allocated arrays
- Dense neural networks, ReLU, matrix back-propagation, gradient descent, 2D input matrices
- Full testing for all functions, crucial to catch subtle mathematical errors affecting learning

(<https://github.com/AverySimmons/Deep-Learning-From-Scratch/blob/main/README.md>)

ASCII Madness Bot

A bot that plays the game ASCII Madness made from a combination of genetic learning and computer vision.

- Used the PyGad python library to train an AI from modified source code
- Developed a custom replay system to gather additional data from training
- Custom game object recognition using the python library cv2

(<https://github.com/AverySimmons/Scary-Pac-Man/blob/main/README.md>)

Check out my portfolio for more projects: <https://averysimmons.github.io>