Sebastian Negulescu

4A Computer Science, Honours Co-op

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Skills

- Technologies: C++, C, Python, PyTorch, OpenGL, JavaScript, Git
- Experience working in an agile environment with stand-ups and sprints
- Tenacious work ethic, ramps up easily in new projects and technologies
- Team player with excellent communication, written and verbal skills
- Hardware enthusiast with experience in building computers, keyboards

Education

University of Waterloo

- Candidate for Bachelor of Mathematics, Computer Science 2024
- René Descartes National Scholarship
- President's Entrance Scholarship

Experience

Nuvation
Jan - Apr 2023
Software Developer

- Developed a system to cycle battery charge using an inverter and battery management system
- Used Python coroutines to develop a state machine for controlling inverter behaviour
- Emperically determined an inverter's DC to AC power efficiency with Python's SciPy
- Designed a class using C++ in a memory constrained environment to generate CLI commands

Nuvation
Jan - Apr 2022
Embedded Software Developer

- Built middleware to capture data from different processes with MQTT
- Created an XML API to read and write configuration files with custom XML values
- Developed a library to calibrate and take measurements from multiple sensors
- Created a procedure to use spectrophotometers for reading pH and dissolved oxygen

Accedo
Jan - Apr 2021
Software Developer

- Developed the Equinox Fitness Android TV application using React and GraphQL
- Implemented design changes on a custom skew of Dish Networks' streaming app
- Ported a major American television network's streaming application to Comcast X1
- Investigated the benefits and drawbacks among various streaming technologies

Accedo
May - Aug 2020
Software Developer

- Resolved defects for SportsNet streaming applications using JavaScript and TypeScript
- Added SmoothStream support and reworked analytics on SportsNet's PS4 application
- Solved live video deep linking issues on SportsNet's Comcast X1 (Ignite TV) application
- Met with large OEM clients to define project requirements and discuss goals

Projects

Raytracer
Dec 2022

- Created a raytracer to produce an image of a 3D scene defined in Lua
- Supports constructive solid geometry (CSG) and multiple primitives including triangle meshes
- Designed a scene involving a LEGO person as well as small houses placed upon a table

Chip-8 Emulator
Aug 2022

- Used C++ and the SDL2 library to create a working emulator of the Chip-8 instruction set
- The emulator can load Chip-8 ROMs and play them using the keyboard as input

Ludum Dare
Kaggle Competition
Dec 2021

- Analyzed Ludum Dare 38-45 results in a decision tree to predict winners for Ludum Dare 46
- Used the XGBoost library in Python to construct an accurate tree based on the training data
- Ranked in the top 20% of students in the competition

Pondnet
Sept 2021

- Pondnet app created at Hack the North 2021
- Pondnet is a web application to locate nearby crowdsourced outdoor hockey arenas
- Built with React.js for the front-end, Node.js for the back-end, and Mongo DB for the database