

SEBASTIAN NEGULESCU

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SKILLS

- Technologies: C++, C, Python, JavaScript, OpenGL, OpenCL, Git, Linux
- Areas of Interest: Computer Graphics, Embedded Devices, Operating Systems
- 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 tinkerer with experience in building computers, keyboards

EDUCATION

UNIVERSITY OF WATERLOO

- Bachelor of Computer Science, Honours
- Co-operative Program
- Graduated with Distinction
- René Descartes National Scholarship
- President's Entrance Scholarship

EXPERIENCE

NUVATION

Software Developer

Jan 2025 - Present,
Sept - Dec 2023,
Jan - Apr 2023,
Jan - Apr 2022

- Developing test fixtures to autonomously qualify assembled battery management systems
- Integrated the littlefs filesystem in an embedded application, allowing for smaller file footprints
- Resolved thread join behaviour of proprietary threading library in C using Microsoft's ThreadX
- Developed software to cycle battery charge using an inverter and battery management system
- Empirically determined an inverter's DC to AC power efficiency with Python's SciPy
- Used Python coroutines to develop a state machine for controlling inverter behaviour
- Created procedures to use spectrophotometers for reading pH and dissolved oxygen

UNIVERSITY OF WATERLOO

Undergraduate Research Fellowship

May - Aug 2024

- Supervised by Tim Brecht, in a joint project with the NHL and Rogers SportsNet
- Used Puck and Player Tracking (PPT) data for advanced hockey metrics and insight
- Spoke at LINHAC 2025 on a new metric to capture balance of puck [possession within teams](#)
- Created a [framework that recreates shots](#) to identify visible portions of the net from puck perspective
- Investigated how [individual possession](#) relates to other measurable areas of a player

ACCEDO

Software Developer

Jan - Apr 2021,
May - Aug 2020

- Developed the Equinox Fitness Android TV application using React and GraphQL
- Implemented design changes on a custom skew of Dish Networks' streaming app
- Ported major Showtime Networks' video streaming application to Comcast X1
- 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

PROJECTS

REAL-TIME MICROKERNEL
FOR TRAIN CONTROL
Apr 2024

- Created microkernel from scratch using C++ for the Raspberry Pi 4 in CS 452
- The kernel has support for 32 tasks with 10 priority levels, scheduled in round-robin fashion
- Programmed tasks on top of kernel to locate, calibrate, and route two model trains around a track

VOLUMETRIC RAYMARCHER
Aug 2023

- Used the technique of raymarching to render volumetric effects such as clouds
- Employed single scattering with a scattering function to trace the path of light through the volume
- Generated randomized cloud volumes using the Perlin noise technique

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