Alexandre Lavoie

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Education

Trent University — Peterborough, ON
Bachelor of Science (BSc.) - Computer Science — *Aug. 2024 – Apr. 2029*

Garneau Catholic High School — Ottawa, ON
Concentration in Computer Science (programming, networking and systems) — *Sept. 2018 – June 2024*

- Scholarship for highest excellence in Computer Science concentration
- Scholarship for academic excellence, GPA over 90%

Experience

Software Engineering Intern — May 2025 – Aug. 2025
Ciena, Analog Engineering — *Ottawa, ON*

- Designed data collection and visualization software to enhance observability of manufacturing defects in Application Specific Integrated Circuits (ASIC), utilizing a data table, object-oriented programming and a GUI
- Developed software that emulates the behavior of a Digital-to-Analog Converter (DAC), serving as a golden reference for validating DAC blocks as part of ASICs, leveraging bit manipulations (C++)

Software Engineering Intern — Jun. 2024 – Aug. 2024
Ciena, Analog Engineering — *Ottawa, ON*

- Developed silicon wafer mapping software to enhance visualization of RF S-Parameter measurements, leveraging heat maps to illustrate performance variations across the wafer (Matlab)
- Implemented additional filtering and sorting functionality, allowing users to organize results based on specific test settings and measurement conditions

Wading Pool Attendant — Jun. 2023 – Aug. 2023
City of Ottawa — *Ottawa, ON*

- Promoted a safe environment at wading pools by applying safety protocols and leadership skills acquired through the City of Ottawa Bronze Cross, Standard First Aid/CPR-C, and Advanced Leadership programs

SHAD (STEM and entrepreneurship program) — Jun. 2022 – Aug. 2022
Lakehead University — *Thunder Bay, ON*

- Participated in a STEM and entrepreneurship enrichment program for high-achieving high-school students
- Collaborated in a team of 8 students to develop a business plan, including problem analysis, ideation, market sizing, product–market fit, and financial forecasting, culminating in a pitch competition evaluated by STEM entrepreneurship mentors

Projects

Bot-tleship Game | *C#, Unity* | GitHub — Oct. 2021 – Jan. 2022

- Developed a Battleship game, featuring a custom intelligent bot, powered by an algorithm allowing strategic targeting decisions
- Implemented game state management with 2D arrays and developed a custom GUI, integrating background music and sound effects for an enhanced user experience

Platformer Game | *C#, Unity* | GitHub — Jan. 2023 – Jan. 2024

- Developed a 2D platformer game, with features including game state saving, health levels, scene transitions and jumping physics, utilizing the Unity UI Toolkit
- Designed a game collision detection system, tracking level completion, leveraging custom event-based handlers

Technical Skills

Languages: Python, C++, C, C#, Matlab, HTML/CSS, LaTeX, JavaScript

Tools and frameworks: Unity, Git, GitHub, Bitbucket Data Center, Linux, Numpy, Matplotlib

Revelant courses: Introduction to Computer Science, Statistics, Linear Algebra, Calculus 1 & 2, Computer Engineering Technology (assemble-your-own-computer and network)