

Linden Sheehy

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Summary

4th-year Software Engineering student specializing in C++ and systems programming. Experienced in building large-scale, real-time systems, with a focus on clean architecture and performance optimization.

Seeking co-op opportunities for Summer 2026 in software development.

Education

BASc in Software Engineering (CO-OP) – 4th year

University of Ottawa, Ottawa, Ontario

Expected Dec 2026

Personal Projects

Kiwi3D – 3D Game Engine Framework / Scene Editor

github.com/lindensheehy/Kiwi3D

C++, Win32 API

Sep 2023 – Jul 2025

Developed a complete 3D graphics application from scratch over two years, handling everything from graphics display to user interaction, entirely solo.

- Built a fully custom engine (17,000 LOC) using only `<windows.h>`, including windowing, input handling, software rendering, a UI framework, and testing tools — all from scratch.
- Achieved throughput of over 200 million pixels/sec while rendering more than 10,000 triangles.
- Designed and implemented a software renderer, featuring custom matrix math, triangle rasterization, Lambertian diffuse shading, z-buffering, and alpha blending.
- Architected a hierarchical UI system with a custom XML-like DSL, featuring dynamic action binding and reusable layouts for interactive scene editing.

Real-Time Graphical Data Overlay

github.com/lindensheehy/ESPOverlay

C++, x86 Assembly, Win32 API

Oct 2024 – Dec 2024

Built a standalone application, capable of interfacing with a separate process, as a self-directed learning project to explore cyber-security and malware analysis.

- Developed a real-time overlay rendering system that interfaced with a black-box application using low-level memory access.
- Engineered double-buffered shared memory for safe inter-process communication, capable of processing 6,000 entities/sec.
- Implemented custom projection rendering positional data, within 5 pixels of accuracy on average.

Professional Experience

Data Analyst (Co-op/Intern) – Transportation Safety Board of Canada

Gatineau, QC

Excel, Power BI, Power Apps

Sep 2024 – Dec 2024; May 2025 – Aug 2025

- Collaborated in a team of 8 to analyze data, delivering actionable insights for internal projects.
- Designed 4 Power BI dashboards to support data-driven decision-making.
- In the second term, explored proof-of-concept solutions and documented dashboard designs and processes to support maintainability and future development.

Junior Developer (Co-op/Intern) – Field Effect

Ottawa, ON

Python, Git, Docker

Nov 2021 – Mar 2022

- Participated in an Agile team, attending daily stand-ups and collaborating with team members to track progress on a project management board.
- Assisted with general quality assurance activities, including writing Python-based unit testing.

Technical Skills

Languages: C++, x86 Assembly, Python, Java

Concepts: System design, 3D graphics, reverse engineering, concurrency, memory management

Libraries & Tools: Win32 API, SDL2, GDI+, Git, VS Code