Neo Hyldelund

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Summary

Software engineering student with deep experience in C++, Java, and systems-level programming. Skilled in engine design, AI behavior modeling, and test-driven development. Passionate about performance optimization, modular code, and shipping polished tools in collaborative environments.

Education

Simon Fraser University Burnaby, BC
Bachelor of Science in Computing Science *Expected 2027*
Data Structures & Algorithms, Software Engineering, AI & Machine Learning

Academic Projects

Grow-the-Hoard | GitHub | *Java / Maven /OpenGL / LDtk / JUnit* Jan. - Mar. 2025
Collaborated on a team of 4 to develop a top-down maze game with intelligent enemy behavior.

- Wrote core logic and pathfinding using A* on custom level formats (LDtk).
- Achieved 100% unit test coverage with JaCoCo; CI-tested using GitHub Actions.
- Presented to a class of 80+ with live gameplay demo and source code walkthrough.

Personal Projects

Doom Clone 3D Game | GitHub | *C++ / OpenGL / GLM / GLTF / A* / JSON* Jul. 2025 - Pres.
Created an original rendering engine with fully integrated movement and pathfinding

- Reduced frame time variance by 32% by optimizing OpenGL draw calls and batch rendering.
- Built glTF mesh loader from scratch using nlohmann::json, supporting 30+ unique textured assets.
- Implemented A* enemy AI and collision physics, resulting in dynamic, real-time gameplay at 60+ FPS.
- Engine tested on 3 hardware configs with <5% input latency and zero crashes in 5+ hours of QA.

Personal Portfolio Website | GitHub | Website | *NextJS / TailwindCSS* Jun. 2025 - Pres.
Clean, mobile-optimized personal site showcasing projects and code samples.

- Built a responsive portfolio site using Next.js and Tailwind CSS to showcase projects and development experience.
- Designed modular, reusable React components for a clean, minimalist interface with smooth navigation and accessible design.

Technical Skills

Languages: C++, Java, Python, JavaScript, SQL

Frameworks/Libraries: OpenGL, glTF, GLM, JUnit, Next.js, TailwindCSS

Tools: Git, Visual Studio, VS Code, Postman, JIRA, JaCoCo

Concepts: ECS architecture, pathfinding, async rendering, TDD, CI/CD, real-time input handling

NAH