Michael Salton

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Education

The University of Western Ontario *London, Ontario*

Bachelor (BSc) of Computer Science + Minor in Video Game Development — September 2020 - June 2024

Skills / About

Tools	C/C++, C#, HLSL, CG, GLSL, OpenGL, Vulkan, DirectX, Unity, Unreal Engine, WebGL, Rust, Python, Kotlin, Java
Concepts	Shaders, GPGPU, Post-Processing, Ray Tracing, Physically Based Rendering, Anti-Aliasing, Photogrammetry
Math	Topology, Graph Theory, Trigonometry, Linear Algebra, Matrices, Discrete Math, Computational Geometry, Calculus
Spoken Languages	English, French

Experience

Game Developer *London, Ontario*

Saltbox Interactive — September 2023 - Present

- Developing an educational game on the themes of archaeology, architecture, archive, history, and oral history, on the town of D'Hanis, Texas.
- The game was selected to be presented at the Society for Historical Archaeology Conference 2025 (SHA 2025) in New Orleans, Louisiana.
- The game utilizes topographic data to recreate a realistic landscape featuring various ruins and structures the player can explore and learn about.

Software Developer (Mobile) *London / Red Deer*

Peavey Industries — September 2022 - Present

- Developing modern Android applications, using Kotlin, Jetpack Compose, Google's Material Design, Django, and PostgreSQL.
- Adopting agile methodologies within the Scrum framework, ensuring the flow of project tasks with a focus on delivering high-quality results.

Software Engineer Intern (VR / C++) *London, Ontario*

The University of Western Ontario — May 2022 - September 2022

- Collaborated with the Architecture department to create a virtual reality application that facilitates urban planning and design processes.
- Leveraged HTC Vive technology to build an immersive, interactable urban environment, enabling real-time interaction with proposed designs.
- Engineered an integration between the VR tool and CAD software using TCP, ensuring real-time updates and visualization of design changes.

Extra-Curricular

Western AI / Project Lambda *The University of Western Ontario*

Project Manager / Developer — August 2022 - March 2024

- Presented machine learning project at the Canadian Undergraduate Conference on Artificial Intelligence 2023 and 2024 in Kingston, Ontario.
- Guided a team of students through the process of planning, designing, and developing a machine learning agent for a video game.
- Hosted workshops to help students learn concepts like reinforcement learning, neural networks, data analysis, and software engineering.

Projects

OpenGL Lighting Simulation

Built with OpenGL and C++ — November 2023 - June 2024

- Designed an OpenGL / C++ lighting engine from scratch, incorporating advanced rendering techniques and optimized performance.
- Implemented a dynamic lighting system that supports multiple light sources, allowing for dynamic shadows and realistic reflections.

3D Pixel Art Engine

Custom engine and rendering pipeline built on top of Unity — October 2023 - May 2024

- Developed various graphical tools, a pixellated camera with pixel-perfect rendering and sub-pixel movement, ensuring precise camera motion.
- Created toon and grass shaders as well as a grass spawning tool using Poisson Disc Sampling for even distribution and optimal performance.

The Wild Waste

Isometric roguelike video game built with Unity — September 2023 - December 2023

- The core gameplay loop is based around a day/night cycle that forces the player to search for shelter and fend off enemies in order to stay alive.
- The game includes procedural map and enemy generation, weather effects, dynamic footprints, loot particle effects, and a custom toon shader.

Publications

- **Michael Salton**, Ethan Pisani, Swayam Sachdeva, "Comparing AI Navigation Methods Using Counter Strike: Global Offensive," March 19, 2023. [Link]