

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#, OpenGL, HLSL, DirectX, Vulkan, Unity, Unreal Engine 5, Rust, Perl, Python, Kotlin, Java
Concepts	Volumetrics, Lighting, Rasterization, Shadows, Rendering, Shaders, Culling, Reflections, Optimization
Spoken languages	English, French
Favourite games	The Witcher, Dishonored, Terraria, Cyberpunk 2077, Red Dead, Portal, Kingdom Come: Deliverance

Experience

Peavey Industries

London / Red Deer

Software Developer

September 2022 - Present

- Creating modern Android applications, using the power of Kotlin, Jetpack Compose, Google's Material Design, and the robust backend capabilities of Django and PostgreSQL.
- Actively contributing to a collaborative development environment by engaging in daily stand-up meetings, conducting code reviews, and fostering efficient teamwork through pair programming.
- Adopting agile methodologies within the Scrum framework, ensuring the flow of project tasks with a focus on delivering high-quality results.

Extra-Curricular

Western AI

University of Western Ontario

Project Manager

August 2022 - March 2023

- Led a team of students through the process of planning, designing, and developing a machine learning project while delegating tasks between members based on experience and skill set.
- Hosted workshops curated to help students improve their knowledge of programming and machine learning concepts such as reinforcement learning, neural networks, and data analysis.

Projects

D'Hanis Virtual Exhibition

Virtual Reality Experience Built With Unity

September 2023 - Present

- The project focuses on the old town of D'Hanis, Texas and aims to create a virtual representation of the historical town to be viewed in virtual reality. The project is being constructed using the Unity game engine and is still in the early development stages.
- Utilizing 3D photo scans, ArcGIS data, HDRI Sky Map, and other archaeological data to build the town in Unity for use with virtual reality.

The Wild Waste

Isometric Roguelike Video Game Built With Unity

September 2023 - December 2023

- The Waste is an action-adventure, horror, rogue-like game built with Unity. The core gameplay loop is based around a day/night cycle that forces the player to search for shelter in order to stay alive.
- The game includes procedural map generation and procedural enemy generation for enhanced gameplay dynamics. The game also features weather effects, a dynamic footprint system, loot particle effects, and a custom cel lighting shader.

Project Lambda

Counter Strike AI

September 2022 - March 2023

- Developed an AI agent that plays Counter-Strike: Global Offensive, using YOLOv7 object detection, behavioural cloning, offline reinforcement learning, and utilizing an OpenAI Gym environment.
- Achieved 90% accuracy on a YOLOv7 model trained on a custom data set of over 6000 images collected and labelled by hand.
- Presented the project at The Canadian Undergraduate Conference in AI 2023 at Queen's University.

Publications

- **Michael Salton**, Ethan Pisani, Swayam Sachdeva, "Comparing AI Navigation Methods Using Counter Strike: Global Offensive," March 19, 2023. [\[Link\]](#)
- **Michael Salton**, Emily Grant, Matthew Tennant, Jiaqi Yuan, Benjamin Oliveria, "GeoBot: Pattern Recognition and Leveraging CNNs for Accurate Country Identification in Geolocation," December 8, 2023. [\[Link\]](#)