

Alexandre Brochu

SOFTWARE DEVELOPER · GRAPHICS PROGRAMMER

Ottawa, Ontario

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Experience

AMD (Advanced Micro Devices)

Ottawa, ON (Remote)

SR. SOFTWARE DEVELOPMENT ENGINEER

Jul. 2022 - Present

- Help drive AMD's technical engagement with EPIC Games
- Create patches and plugins for UE5 targeting the developer community
- Document UE5's computer graphics technologies (DX12, Nanite, Lumen, TSR) for the developer community

Behaviour Interactive

Ottawa, ON (Remote)

GRAPHICS PROGRAMMER

Jul. 2021 - Jun. 2022

- Optimize code found in graphic pipelines, systems architecture and shader programs
- Gain experience with GPU profiling tools (RenderDoc, Razor, PIX)
- Port a game project with a custom engine and renderer to consoles

Behaviour Interactive

Montreal, QC

UNREAL DEVELOPER

Nov. 2019 - May. 2021

- Write game logic and tools (using both C++ and Blueprints)
- Ship a game project on a new and recent platform (Stadia)

Behaviour Interactive

Montreal, QC

UNITY3D DEVELOPER

Jun. 2016 - Nov. 2019

- Write game logic for multiple systems (AI, Animation, UI, Backend)
- Ship two game projects on multiple platforms (Android, iOS, Steam)

Skills

Programming	C++, HLSL, GLSL, C#, Ruby, Python, Racket, Typescript
Graphics APIs	DirectX 11, Vulkan, DirectX 12, OpenGL
Game Engine	Unreal Engine 4, Unity3D, Godot, DromEd
Development Tools	Visual Studio, Rider for Unreal Engine, Neovim, VS Code, RenderDoc, PIX, RazorCPU/GPU, CMake, GDB, Ninja, Git, Perforce
Languages	French, English

Education

Sherbrooke University

Quebec, Canada

B.S. IN COMPUTER SCIENCE

Sep. 2012 - Aug. 2015

- Two semesters with A+ average GPA
- Overall GPA of 4.06
- Classes for algorithms, computer graphics, artificial intelligence, parallel programming and functional programming

Personal Projects

GPU BASED RAY TRACING ENGINE IN C++ WITH DIRECTX 11

- Learning the inner workings of the DirectX 11 graphics API to communicate rendering commands to the GPU
- Practicing writing some C++ logic to transfer data from the main memory to the GPU memory to create dynamic scenes
- Learning about how compute shaders can help getting better performance for the ray tracing process rather than implementing the full algorithm in pixel shader

VIDEO GAME PROJECT BASED ON THE BOARDGAME "SEQUENCE" USING UNITY3D

- Learning to organize ideas and plan to complete a video game project with a small team of hobbyists
- Implementing a client/server architecture for multiplayer gameplay over the network from scratch with C# as a separate program
- Performing play test sessions with some people from outside the development team to gather feedback on how to improve the game's experience