Alexandre **Brochu**

Software Developer · Graphics Programmer
200 Rideau street, Ottawa, ON, K1N 5Y1
819-209-9772 | alexbrochu1@gmail.com | brochu.github.io | Brochu | alexandrebrochu

Education

Sherbrooke University
Quebec, Canada

B.S. in Computer Science — *Sep. 2012 - Aug. 2015*

- Received excellence letters from the Dean twice for semesters with 4.3 average GPA
- Received overall GPA of 4.06
- Studied algorithms, computer graphics, artifical intelligence, parallel programming and functionnal programming

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

Experience

Behaviour Interactive
Ottawa, ON (Remote)

Graphics Programmer — *Jul. 2021 - Present*

- Optimize code found in graphic pipelines, systems architecture and shader programs
- Apply changes to rendering logic found in Unreal Engine
- Gain experience with graphics on multiple platforms (PlayStation, Xbox, Switch)
- 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*

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

Behaviour Interactive
Montreal, QC

Unity3D Developer — *Jun. 2016 - Nov. 2019*

- Writing game logic for multiple systems (AI, Animation, UI, Backend)
- Shipping 2 game projects on multiple platforms (Android, iOS, Steam)

Fuel Industries
Ottawa, ON

Unity3D Developer — *Jul. 2015 - Jun. 2016*

- Writing shaders for game with higher graphic complexity
- Developing game on Android and iOS platforms

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