

Antonin Francoeur

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SKILLS

Languages: C#, C++, Java, Python, HLSL, GLSL, JS, PHP, Rust, Go.

Technologies: Unity, Unreal, Renderdoc, DirectX, VR, Quest 2, Xcode, Godot, React, Blender, Substance painter

Strengths: Gameplay programming, Technical art, Procedural geometry, Terrain systems, Shaders, Compute shaders, Rendering systems, Engine-adjacent systems, Path-finding, Physics, Net-code, Networking, Optimising hot system, multithreading, ECS, job systems.

EXPERIENCE

Software Developer, UI Designer

Kelpie Robotics Club

September 2023 — Present

Ottawa, ON

- Created custom C++ Unity plugins to enable hardware decoding of underwater cameras.
- Lead the VR front-end team, produced a prototype faster than any previous years.
- Designed and implemented the 3D UI for the project.

Software Developer, Technical Artist

PropelVR

May 2022 — Present

Ottawa, ON

- Optimised rendering of a project, bringing visual fidelity up and frame rate from 13 to 72 fps on Quest 2
- Created a high quality, reliable custom VR player controller system for employee training software that we would later reuse in a project commissioned by Lockheed-Martin.
- Wrote multiple custom optimised shaders to fit the need of multiple projects.
- Released two projects during my time at the company.

EDUCATION

BS in Computer Science

University of Ottawa

Completing 3rd year in April 2024. GPA of 3.39 as of 2023.

September 2021 — Present

Ottawa, ON

PROJECTS

Untitled PVE Project | Photon Quantum, C#, Multiplayer

December 2022 — Present

- Obtained early-access to a newly released deterministic multiplayer game engine for the project.
- Developed a fast voxel terrain system, complete with custom procedural generation system, custom collision systems, custom path-finding solutions.

OUTERBLAST | C#, ECS, Job System, Multiplayer

November 2019 — July 2021

- Implemented a custom rollback ECS-based net-code system.
- Created a custom instanced grass rendering solution using compute shader and instanced rendering.
- Developed a complete project, from gameplay mechanics to the lobby system and settings system.

Terrain Explorer | C++, Visual Studio, OpenGL

December 2021

- Conceived a C++ terrain visualizer tool that can be used to try out different noise function that can be used in procedural generation for games.
- Optimised project using multithreading and different noise sampling techniques.

NEOVNI | iOS, Android, Unity

March 2020 — April 2020

- Released a mobile multiplayer racing game on the App Store and Google Play Store.
- Implemented a built-in level editor with a PHP server system for sharing levels
- Learned about mobile optimization.