Antonin Francoeur

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SKILLS

Languages: C#, C++, Java, Python, HLSL, GLSL, JS, PHP, Rust, Go.
Technologies/Tools: Unity, Unreal, Renderdoc, DirectX, VR, Quest 2, Xcode, Godot, React, Blender, Substance painter
Strengths: Gameplay programing, 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   September 2023 — Present
Kelpie Robotics Club   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   May 2022 — Present
PropelVR   Ottawa, ON

- Tailored optimization strategies to the specific needs of the project, leveraging insights from Meta's hardware documentation and profiling analyses to enhance VR project performance, bringing 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   September 2021 — Present
University of Ottawa   Ottawa, ON
Completing 3rd year in April 2024. GPA of 3.39 as of 2023.

PROJECTS

Untitled PVE Project | Photon Quantum, C#, Multiplayer   December 2022 — Present

- Developed a fast voxel terrain system, complete with a custom procedural generation system, a custom collision solution, a custom hierarchical voxel path-finding system.
- Utilized a new deterministic multiplayer game engine, paving the way for future users by fixing bugs and providing support on forums

OUTERBLAST | C#, HLSL, 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.
- 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.

coding, design, and passion