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 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

- 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 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

- 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.