

Axel Ingouf

Senior Gameplay Engineer

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EXPERIENCE

Senior Gameplay Engineer at Activision Beenox Nov 2022 – Present · Québec, Canada

[Call of Duty: MWIII \(2023\)](#) [Call of Duty: Black Ops 6 \(2024\)](#) [Call of Duty: Black Ops 7 \(2025\)](#)

- Implemented gameplay systems for AAA Call of Duty titles in a large-scale C++ codebase.
- Collaborated with design, animation, and audio teams to deliver high-quality player-facing features.

Tools Programmer at Activision Beenox Sep 2021 – Nov 2022 · Québec, Canada

[Call of Duty: Modern Warfare II \(2022\)](#) [Call of Duty: Warzone 2.0 \(2022\)](#)

- Built and maintained internal tools used daily by designers and engineers across the project.
- Contributed to tooling pipelines supporting the development of two simultaneously shipped titles.

Security & Web Developer at Boulanger S.A. Oct 2018 – Jul 2019 · France

- Developed internal web tools and automated quality/security test workflows.

Exchange Programme at Sendai College, Japan Apr 2018 – Jul 2018

- International engineering exchange: Python, Arduino prototyping, and cross-cultural project management.

PERSONAL PROJECTS

Freyr Engine 2021 – Present

[C++23](#) · [Vulkan](#) · [ECS](#) · [PhysX](#) · [Recast/Detour](#) · [SteamWorks](#) · [Multiplayer](#) · [Python \(build codegen\)](#)

- Custom 3D game engine built from scratch - Vulkan renderer with cascaded shadows, real-time portals (up to 4 concurrent), GPU skinning, render-to-texture surfaces, and video playback on world geometry.
- Multithreaded pool-based ECS with generational handles; systems declare read/write dependencies for parallel dispatch; Python-generated reflection/serialization pipeline.
- PhysX integration covering rigid bodies, ragdoll, rope simulation, and portal physics (cross-portal teleportation). Voronoi-based real-time destructible geometry via CGAL.
- Behaviour tree AI, Recast/Detour navmesh, skeletal animation with procedural IK and dismemberment, host-authority multiplayer via SLikeNet with client-side interpolation.

SKILLS

Languages: C++, C#, Python, JavaScript **Engines:** Unreal Engine, Unity, custom **Graphics:** Vulkan, DirectX 10, OpenGL

Tools: Visual Studio, CMake, Git, Perforce **Domains:** Gameplay, Animation, AI, Networking

EDUCATION

ISART Digital, Montréal Sep 2020 – Aug 2021

AEC Game Programming · 3D Engine, Gameplay, AI, Network, Animation, Rendering (Vulkan, DirectX10, OpenGL)

IMT Lille Douai Sep 2018 – Jul 2019

Engineering School · Fullstack Web, OOP, Network, Project Management

IUT de Calais Sep 2016 – Jun 2018

Computer Science Diploma (DUT) · OOP, Web, Network, Multithreading, AI, Databases, Architecture