

AJ Weeks

Graphics Programmer

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I am an experienced graphics programmer with a strong understanding of modern **realtime graphics** techniques, **game engine architecture**, and **optimization**. I have solid problem solving abilities, I'm a fast learner, and I'm keen on working in interdisciplinary teams to achieve the best possible results.

Work Experience

Avalanche Studios Group / Experienced Graphics Programmer

JAN 2022 - DEC 2023, STOCKHOLM, SWEDEN

Graphics Programmer on Contraband (open world AAA in-development title). Responsibilities primarily include improving the **raytraced global illumination** and **shadow rendering** systems, maintenance of the engine, and **optimizing CPU & GPU** workloads.

Technologies used: **Proprietary engine (Apex Engine) (C++, HLSL)**, **Perforce**, **PIX**

Electric Square / Programmer

FEBRUARY 2018 - DECEMBER 2021, BRIGHTON, UK

Four-month internship followed by full time employment as a generalist programmer. Responsibilities primarily included **engine development** (render pipeline, load times, optimization), and tool development.

Technologies used: **Unity (C#)**, **Unreal Engine 4 (C++, HLSL, Blueprints)**, **Perforce**

Projects

Flex Engine

2017 - PRESENT

Personal game engine (**C++**, **Vulkan**). Physically-based renderer supporting features such as **tessellated water**, **procedural terrain**, GPU-based particle simulation, **screen-space ambient occlusion**, **cascaded shadow mapping**, and **temporal anti-aliasing**. Also includes physics simulation, audio engine, UI renderer, SDF font renderer, and scene serialization. ([GitHub](#))

Realtime Global Illumination Research

2019 - 2021

Co-author of unpublished research paper describing **novel, scalable, & dynamic global illumination** technique. Also responsible for implementation in production.

Raymarching Workshop

2018

Workshop given to colleagues sharing the theory and application of the **raymarching rendering technique**. (Course materials: [GitHub](#))

Education

Digital Arts and Entertainment / Hogeschool West-Vlaanderen

AUGUST 2015 - JUNE 2018, KORTRIJK, BELGIUM

Programming-focused game development BSc. Courses included: Graphics, Physics, & AI programming, Applied Math & Physics, Unity & UE4, 3D Asset Creation, Rigging, Photoshop & Illustrator. Graduated **Magna Cum Laude**.