

Adrian Rodrigues

Senior Graphics / Rendering Programmer

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SUMMARY

Senior Graphics Programmer with 4+ years in AAA on Unreal Engine 4 and 5 (PC, PS5, Xbox Series X|S), specialised in rendering performance and stability, from GPU frame-time optimisation to engine-level D3D12 RHI fixes. Builds Cerberus, a personal C++/Vulkan path tracer.

PROFESSIONAL EXPERIENCE

Virtuos

Jun 2022 – Present

Senior Graphics / Rendering Programmer · Third Kind Games

Feb 2025 – Present

Unannounced UE5 project (under NDA)

Jul 2026 – Present

- Reduced Virtual Shadow Map cost for skinned foliage by ~29% on PS5 by changing how its shadow animation updates are handled.
- Profiled the Nanite Visibility pass (voxels ~28%, programmable raster ~20% of its cost) and built tools to switch foliage Nanite settings to voxels, improving the pass by ~20–25%.
- Analysed Nanite raster and Base Pass costs with A/B tests (~7–10% savings per item) and turned the findings into a prioritised action plan for Art and Tech Art.
- Reduced Virtual Texture upload spikes by ~30–40%.

Mavrix · Unreal Engine 5, C++, HLSL, DirectX 12

Feb 2025 – Jul 2026

- Resolved AMD-specific D3D12 RHI crashes in Ray Tracing Pipeline State Object additions and Runtime Virtual Texture black-patch artifacts through engine-level changes.
- Designed a modular graphics settings framework (DLSS, FSR 4, frame generation) and per-platform Performance/Quality modes for PC, PS5 and Xbox Series X|S.
- Optimised Virtual Shadow Maps with a distance-based ray-count falloff for Shadow Map Ray Tracing and custom cache invalidation for large, dynamically streamed environments.

Senior Graphics Programmer · Black Shamrock

Aug 2023 – Feb 2025

Judas, Unreal Engine 4 · promoted from Graphics Programmer in Nov 2024

- Developed a render-state streaming system that reduced the primitives processed per frame and improved render-thread efficiency.
- Backported UE5 renderer features to UE4, including optimised compute visibility and render-state creation and destruction.
- Made runtime reflection-probe generation time-sliced and on-demand for procedurally generated (PCG) content; mentored a junior developer.

Junior Graphics Programmer · Virtuos Paris, Judas (UE4)

Jun 2022 – Aug 2023

- Reduced draw calls through culling and optimised lighting setups within performance budgets.

SELECTED PROJECTS

- **Cerberus (C++, Vulkan)** — hardware ray-traced path tracer built from scratch, with an A-SVGF denoiser and a render graph that derives barriers and merges Dynamic Rendering scopes.

SKILLS

Rendering (UE4–5)	Nanite, Virtual Shadow Maps, Lumen and ray tracing, (Runtime) Virtual Textures, culling and LOD, skinned meshes, foliage
Languages and APIs	C++, C#, HLSL, GLSL, DirectX 12, Vulkan, OpenGL
Platforms	PC, PS5, Xbox Series X S
Profiling and tools	Unreal Insights, RenderDoc, PIX, Razor, Git, Perforce

EDUCATION

Master's in Computer Science, Instituto Superior Técnico (2019 – 2021) · Bachelor's in Computer Science, University of Lisbon (2016 – 2019)