

Khashayar Javid

Game & Engine Programmer — C++ / Vulkan

Kortrijk, Belgium | xerxesjf@gmail.com | xrxs.be | github.com/xrxsEver | linkedin.com/in/khashayar-javid | xrxs.itch.io

— SUMMARY

Game Development student at Howest DAE, working close to the hardware in C++ and Vulkan. Built a real-time caustics pipeline with the wave simulation running entirely on the compute queue, a component-based C++ engine cross-compiled to WebAssembly, and led three game jam teams to shipped builds on deadline. Seeking an **end-of-study internship in engine or graphics programming**, February – June 2027.

— TECHNICAL SKILLS

Languages	C++ (primary), C#, GLSL / HLSL, Python, JavaScript
Graphics	Vulkan, OpenGL, multi-pass rendering, compute shaders, PBR lighting, GPU profiling
Engines	Unreal Engine 4 & 5 (C++ and Blueprint), Unity, custom C++ engine
Tools	Visual Studio, CMake, Git, RenderDoc, Dear ImGui, Emscripten, Houdini, Blender

— SELECTED PROJECTS

XeRender 2.0 — Real-Time Underwater Caustics

Solo · 2026

C++ · Vulkan · GLSL — xrxs.be/projects/vulkan-caustics

- Built a multi-pass Vulkan pipeline that derives a water-surface normal map from a Gerstner wave simulation running entirely in a compute shader, then projects caustics through a light matrix in the fragment shader — no pre-baked textures, so the lighting tracks the live surface.
- Hand-wrote the full Vulkan setup (swapchain, render passes, descriptor sets, pipeline layouts) with explicit memory barriers synchronising compute output against the graphics passes consuming it.
- Wrote an in-engine benchmark harness — swappable water modes, scripted test suites, CSV export, mean/median FPS, 1% lows, standard deviation and outlier rejection — so rendering trade-offs were measured rather than estimated.

Custom C++ Engine — Playable in the Browser

Solo · 2025 – present

C++ · Emscripten · WebAssembly — xrseven.github.io/Prog4

- Component-based engine built up from a minimal Minigin base: custom scene graph, resource manager and game loop.
- Cross-compiled to WebAssembly with Emscripten so the build runs in a browser with no download. Ongoing work is on the rendering abstraction and engine subsystems.

Optimal Pathfinding Snake AI

Solo · 2024

Unity · C# — github.com/xrxsEver/SmartCobra

- Hamiltonian-cycle pathing with shortcut evaluation: the agent never traps itself, because any shortcut it takes must still leave a safe path back to its own tail.

XeRender 1.0 — physically based renderer written from scratch in Vulkan with a Dear ImGui debug layer for runtime material tuning. C++ / Vulkan, solo, 2024 — github.com/xrxsEver/VulkanProject

Ravio — school & kindergarten management PWA. Next.js 16, TypeScript, Supabase / Postgres; multi-role access enforced by row-level security in the database rather than in the UI. Side project, 2026.

— GAME JAMS & TEAM PROJECTS

- **Lead developer on three jam teams** — Brackeys Jam 2026.1 (1 week, team of 3), Global Game Jam 2026 (48 h, team of 2) and Global Game Jam 2025 Berlin (48 h on-site, team of 3). Owned core gameplay systems and integration; every entry shipped playable on the deadline.
- **Printing Party** — programmer on a five-person, 100-day student production, through a full iteration and polish cycle to a shipped build.

— EXPERIENCE

Independent Game Development

2019 – present

- Rebuilt **Super Contra** from scratch in C++; prototyped a shooter on Unreal's Lyra framework; gameplay programming in Blueprint and C++; rendering work against OpenGL and platform SDKs.
- Built a Houdini-to-Unreal procedural pipeline generating mosque geometry from numeric parameters, plus MetaHuman character setup and animation retargeting.

Head of Design — Escapeme

Apr 2018 – Apr 2019

- Led the design team across three escape-room games and a board game (**Twilight**), designing 20+ puzzles and iterating them against live players.

Freelance designer, 2015 – 2021 — brand, web and print work delivered to fixed deadlines for six commercial clients.

— EDUCATION

BSc Digital Arts & Entertainment — Game Development major

Sep 2020 – Jun 2027 (expected)

Howest University of Applied Sciences — Kortrijk, Belgium

Includes one year (2024 – 25) in Howest's Devine programme, Digital Design & Development.

Game Theory — Stanford University online certificate, 2022.

— ADDITIONAL

Languages — Farsi (native) · English (fluent) · Dutch (B1, conversational) | **EU work permit** · open to relocation and remote work