LEONNEL HAMMEL

Gameplay & Engine Programmer

Portfolio | leonnelhml@gmail.com | Leoleonmiel | LinkedIn

Skills

Game Engines: Unreal Engine 5, Unity
Programming Languages: C++, C#, C, Lua, HLSL
Development Tools: Git, SVN, Perforce, Visual Studio, Rider, Jira
Soft Skills: Communication, Teamwork, Problem-solving, Curious, Feedback-Driven, Strong Ownership
Languages: English (fluent - C1), French (fluent - C1)

Professional Experience

Software Engineer - Gameplay Programmer *Sogeclair - Oktal SE*

Toulouse, FRANCE
April 2026 – June 2026

</> Unreal Engine 5 | C++ | Blueprint | Optimization | Gameplay

- Developed a vehicle gameplay demo in **Unreal Engine** using the **Chaos Modular Vehicle** system, including a **custom IK-driven animation pipeline** and extensive **C++ systems customization** for a live showcase at Eurosatory. (*Demo video*)
- Engineered **manual and autonomous driving systems**, combining Chaos Vehicles with **custom C++ physics and control logic**
- Designed and implemented a **PCG-based environment**, integrating procedural generation tools to rapidly create and iterate on showcase levels
- Optimized runtime performance through **GPU profiling and rendering optimization** using **RenderDoc** and **NVIDIA Nsight**, reducing GPU and VRAM overhead

Software Engineer Intern - Gameplay & Tools Programmer *VRAI Studio*

Albi, FRANCE
June 2025 – Sept 2025

</> Unity | VR/XR | Mobile | C# | Gameplay | Online | Collaboration

- Developed **VR gameplay mechanics** in Unity in a large existing code base, improving interaction quality (*Aventure du Compost*)
- Optimized **standalone VR performance** on PICO headsets, resulting in smoother framerates (*RecyclageVR*)
- Expended Unity with **custom tools** in C#, allowing ease of generation for new levels
- Implemented a **mobile IAP system**, with assets from the art team and guidelines from the design document (*BunnyKids*)
- Refactored architecture using **Zenject and event-driven patterns**, enabling faster feature scaling

Software Engineer Intern *Swisscom*

Lausanne, SWITZERLAND
June 2024 – Sept 2024

</> C++ 11-17 | WPF | Git | CI/CD | Collaboration

- Optimized a **C++ anomaly detection tool**, reducing memory usage from 20% to 7%.
- Implemented UX-driven features with designers, improving usability and consistency
- Reviewed and documented code, increasing maintainability and team efficiency

Personnal Projects

Rendering & Engine Programmer - BitForge

Nîmes, FRANCE
Oct 2025 - June 2026

</> DX12 | C++ | Assembler | 3D graphics | Rendering | HLSL

- Designed and developed a **custom real-time rendering engine** combining **C++20 and MASM x86_64**, with a hybrid low-level architecture for fine-grained control over performance and memory
- Implemented a modern **DirectX 12 deferred rendering pipeline**, including **G-buffer**, **shadow mapping**, **SSAO**, **volumetric fog**, and **temporal anti-aliasing**
- Custom **HLSL pixel shaders** to implement real-time **Screen-Space Reflections (SSR)** utilizing a robust **depth-buffer raymarching / raycasting algorithm** to evaluate ray-scene intersections
- Architected the engine pipeline and data flow between C++ and assembly modules, enabling **custom windowing, rendering control, and execution flow**
- Optimized CPU and GPU performance using **SIMD vectorization** and **GPU-driven rendering techniques**, improving scalability to complex scenes
- Developed physically-based rendering features including **PBR workflows** and **image-based lighting** for realistic visual output

Education

Creajeux

Nîmes, FRANCE
Sept 2021 – May 2026

Bachelor's Degree in Computer Science & Game Programming

Cegep du Vieux-Montreal

Montreal, CANADA
Aout 2017 – Aout 2018

DEC-Sciences Humaines/Optimonde

Hobbies & Interests

Cooking | Bodybuilding | Warhammer | Beer