# LEONNEL HAMMEL
## Software Engineer

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🌐 Portfolio *(more info on my website)*

## SKILLS

**Soft Skills:** Communication, Teamwork, Proactive, Curious, Feedback-oriented, Strong Ownership
**Programming Languages:** C++, C#, C, Lua, SQL, HLSL
**Game Engines & Frameworks:** Unreal Engine 5, Unity, SFML, SDL, Love2D, CSS
**Development Tools:** GitHub/Git, Visual Studio, WPF, Winforms, Fmod, WWise, Jira, TortoiseSVN
**Languages:** English (fluent - C1), French (fluent - C1), Classical Arabic (fluent - C1)

## PROFESSIONAL EXPERIENCE

**Software Engineer - Game Programming Intern -** *VRAI Studio* 🔗

`</>` | Unity | VR/XR | Mobile | iOS/Android | 3C | IAP | Zenject | Tools |

Albi, FRANCE
*June 2025 – August 2025*

- Implemented immersive **VR mechanics** (photo capture, rotation, haptics) using the **Unity Input System** to improve responsiveness (*Aventure du Compost* 🔗).
- Profiled and optimized **standalone VR** on PICO headsets to stabilize framerate and reduce hardware overhead (*RecyclageVR* 🔗).
- Developed a **C# planet creation tool** enabling non-technical staff to add new worlds without coding, accelerating content production.
- Designed and integrated a **custom Unity IAP system** improving monetization flow on mobile (*BunnyKids* 🔗).
- Refactored and optimized **editor tools and mobile builds** with Jobs and Burst to reduce CPU and GPU usage on iOS and Android.
- Built improved **player controls** (3Cs) for VR and non-VR for more natural interaction.
- Architected a **decoupled infrastructure** with Zenject, Event Bus, and ScriptableObjects to scale features faster.

**Software Engineer Assistant / UX Programmer -** *Swisscom* 🔗

`</>` | C++ | WPF | Git | Tools | Jira | CI/CD |

Lausanne, SWITZERLAND
*June 2024 – August 2024*

- Assisted in software development, debugging, and testing. Optimized the internal anomaly detection system and improved the user experience by **reducing memory usage from 20% to 7%** through memory layout optimization in **C++**.
- Facilitated feature integration and conducted full code reviews. **Implemented design team requests** while adhering to project standards.
- Documented technical processes and improvements, ensuring comprehensive code comments for future maintenance and **developing scalable documentation** to support team collaboration.
- Collaborated with **cross-disciplinary teams**, achieving a **20% reduction** in feature delivery time.

## PROJECTS

**Engine/Tool Programmer**

`</>` | Assembly | C/C++ | CPU Rendering | SIMD | MASM | X86_64 |

Nîmes, FRANCE
*Oct 2025 – Present*

- Programming in **MASM x86_64** with optimized instruction handling and memory management.
- Implementing **XMM** and **AVX-512** SIMD operations for high-throughput parallel data processing.
- Developing a **C++ front-end** providing structured input parsing and control of assembly execution.
- Creating a **CPU-only graphics renderer** performing pixel computation entirely in assembly without external frameworks.

**Online/Tool Programmer -** *SUNA* 🔗

`</>` | C# | Unity | Tools | ECS | Netcode for Entities | Multiplayer | FPS |

Nîmes, FRANCE
*Jan 2025 – May 2025*

- Built **server-authoritative multiplayer** in Unity ECS with secure deterministic state sync for FPS gameplay.
- Engineered **low-latency netcode** including rollback, prediction, interpolation, and delta compression.
- Developed **matchmaking and session management** for dynamic lobby fill and scalable sessions.
- Created **network debugging tools** to test stability under high latency and packet loss.
- Integrated networking with animation, physics, and asset workflows across the project.

## EDUCATION

**Creajeux**
*Bachelor's Degree in Computer Science & Game Development*

Nîmes, FRANCE
*Sept 2021 – May 2026*

**Cegep du Vieux-Montreal**
*DEC-Sciences Humaines/Optimonde*

Montreal, CANADA
*Aout 2017 – Aout 2018*