Sebastián Valdés Sánchez

Software Engineer

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I am a Software Engineer and recent graduate from Sheffield Hallam University, with a strong focus on performance-critical development and engine architecture. Proven ability to build optimised systems through custom engine projects, including real-time rendering pipelines and memory management frameworks. I bring solid experience in low-level programming alongside modern development practices, always approaching problems with a practical and methodical mindset. While primarily interested in tools, engine, rendering, and performance optimisation, I am also open to gameplay programming roles where technical insight and creative thinking can have strong impact.

RELEVANT EXPERIENCE

PlayStation 5 Engine | 🌱 Pikmin-Like Game 🌱

***Graphics & Gameplay Programmer**, September 2024 − Present*

Built a custom game engine for **PS5** from scratch in Semester 1, including a real-time **skeletal animation** system with GPU skinning. In Semester 2, extended the engine as part of a team to develop a Pikmin-style game. Developed features such as **animation blending** and an interactive **grass system** affected by **wind** and **player footsteps**, using **compute shaders**. **[C++, PSSL, GitHub, Jira, Razor GPU].**

🌐 **Project DevLog**

👑 INVICTA: The Next Queen 👑

***Unreal Engine Gameplay Programmer**, September 2022 − July 2023*

Developed a top-down Soulslike game, published on **Steam**.
Led the implementation of all **in-game animations**, including state machines, **2D/3D blend spaces**, and layered animation systems for smooth directional and simultaneous movements.
Built the animation event system using **Unreal Engine anim-notifies** to trigger gameplay actions in sync with specific frames.
Created various **projectiles** with unique behaviours such as arc fireballs, and contributed to gameplay systems such as **enemy lock-on**, parrying (reflecting projectiles with their original trajectory), and status-effect hazards like fire, ice, and oil. Also developed fast-travel portals and contributed to the overall **combat system**. **[C++, Unreal Engine, Perforce, Trello].**

🌐 **Project DevLog**   **Link to Steam**   ▶ **YouTube Trailer**

🍗 Poyo Engine 🍗

***Graphic Engine Programmer**, September 2022 − June 2023*

Built a custom game engine **solo from scratch** based on an Entity Component System (**ECS**). Developed key features such as **Deferred Shading**, **Frustum Culling**, **Direct State Access** and **Multi Draw Indirect** System for rendering performance optimisation. Implemented **PBR Materials** for realistic lighting and **GPU skinning mesh animations** for smooth character movement. Added editor tools like **Undo/Redo** and **Object Selection**, along with a robust **logging** system and **Gizmo Transform** for manipulation. Integrated **Shadow maps** for realistic lighting and successfully ported the engine to **DirectX 11**, fully enabling **Xbox One** compatibility. **[C++, GLSL, OpenGL 4.6, HLSL, DirectX11, GitHub, Trello, RenderDoc].**

🌐 **Project DevLog**   ▶ **YouTube Trailer**

EDUCATION

BSc Hon Computer Science for Games | Sheffield, United Kingdom
Sheffield Hallam University, September 2024 – May 2025

One-year top-up focused on advanced topics in **game engine development**, **graphics programming**, and **real-time systems**. Coursework includes shader programming, animation systems, and low-level engine architecture, with practical experience on **PlayStation 5 devkits**. **[Average Grade: First Class]**

HND in Computing, BTEC Level 5 | València, Spain
ESAT (Escuela Superior de Arte Tecnología), September 2020 – July 2023

Specialised in game development with a strong focus on **C++**, **algorithms**, physics, and **engine architecture**. Worked with both **Unreal Engine** and **Unity**. Published a **mobile game** on the **Android Store** and a full **Unreal Engine** game on **Steam**. Gained experience in **SQL** and developed custom database tools using C++. Also learned **platform porting** techniques and low-level programming with **assembler** on **Raspberry Pi**. Strengthened **team collaboration** through **multiple group projects** and presentations. **[Average Grade: Distinction]**

ADDITIONAL INFORMATION

Private Tutor (C++ & OpenGL)
Provided one-on-one tutoring sessions over two years to students from both ESAT and Sheffield Hallam University. Focused on graphics programming and engine architecture fundamentals. Supporting their progress and confidence has been personally rewarding.

Languages
Native Spanish and Catalan speaker. Advanced English (C1 level – academic and professional use).