

Alejandro Martínez Forner

Software Engineer

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I am a Software Engineer with a strong focus on gameplay systems, AI programming, and graphics development. I am currently completing a BSc (Hons) in Computer Science at the University of Hertfordshire. I have practical experience developing performance-conscious features through custom engine work and team-based game projects, including real-time rendering techniques and gameplay mechanics. With a solid foundation in C++ and experience across both Unreal and Unity, I approach development with a balance of technical depth and creative problem-solving. While my primary interests lie in gameplay, AI, and graphics programming, I'm adaptable and open to contributing wherever impactful code and smart design are needed.

Relevant Experience

Born To Rise – Raccoons Making Games

Unreal Engine / AI Programmer | September 2022 – July 2023

Developed as part of a 15-person team using **Unreal Engine** and **Perforce**, **Born To Rise** is a published **2.5D action-platformer**.

Owned the complete **AI system** for a custom enemy, including behaviour logic, animation state machines, movement, and combat interactions. Integrated the enemy seamlessly into gameplay using **Unreal's behavior trees** and **animation blueprints**.

Also implemented core menu systems and contributed to gameplay hazards such as bounce platforms, ensuring responsive feel and consistent design across levels.

[C++, Unreal Engine, Perforce, Trello]

[YouTube Trailer](#) | [Steam link](#)

Requiem Engine

Graphic Engine / C++ Programmer | September 2022 – June 2023

Co-developed a custom graphics engine from scratch alongside one partner, using C++, **OpenGL**, and **DirectX**, and architected around a component-based **Entity Component System (ECS)**.

Focused on developing the lighting pipeline, including a fully integrated **shadow mapping** system and **deferred shading** for efficient rendering.

Implemented advanced visual features such as **water caustics**, **instanced rendering** for optimized draw calls, and ported the entire engine to **DirectX 11** to expand platform compatibility.

[C++, OpenGL 4.6, GLSL, HLSL, DirectX11, GitHub, RenderDoc]

[YouTube Trailer](#)

Education

BSc (Hons) Computer Science | Hatfield, United Kingdom

University of Hertfordshire | September 2024 – May 2025 (Expected)

One-year top-up with a focus on core computer science principles including algorithms, software engineering, systems programming, and applied computing. Emphasis on **object-oriented programming**, **data structures**, and real-world **software development practices**. Includes modules in cybersecurity, IoT, robotics, and concurrent systems, with hands-on experience in both individual and group-based technical projects.

HND in Computing, BTEC Level 5 | València, Spain

ESAT (Escuela Superior de Arte y Tecnología), September 2020 – July 2023

Completed a Higher National Diploma focused on programming and systems design, with an emphasis on game development and software engineering using C++. Worked extensively with **Unreal Engine** and **Unity** in both solo and group projects. Developed and shipped two titles: a mobile game on Android and a 2,5D platform game on **Steam**. Built tools using C++ and **SQL**, and gained experience with **low-level programming** through projects in **assembler**. Developed strong **teamwork** and project planning skills through agile-based development and frequent presentations. **[Graduated with Distinction]**

Additional Information

Languages

Native Spanish and Catalan speaker.
Advanced English (C1 level).