

# Pedro Casas

## Graphics Programmer

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### EXPERIENCE

#### Chibig: Core Tech and Graphics Programmer

Valencia, September 2022 - Present

During my time at Chibig Studio I have specialized in **graphics and optimization for multiplatform development**. I have worked with a multidisciplinary team using agile methodologies and task management tools such as *Jira* and *Hacknplan*.

#### Mika and the Witch's Mountain: 3D Fantasy Adventure

I joined the team a few months before release and optimized and refactored all shaders managing to massively improve performance. You can see the [trailer](#) and the [steam page](#).

- Shader implementation from the ground up in HLSL with support for parallax mapping, LOD transitions, instancing, etc.
- Custom ambient occlusion (SSAO) and reflections (SSR).
- LOD & Culling systems.
- Foliage system based on GPU-Instancing.
- Iterative optimization of scripts and rendering.
- Extended lights to shade characters and environments separately.
- Solved all graphical issues for each target platform.

#### Elusive: 3D Adventure Platformer

Unreleased project in which I worked as a systems and graphics programmer. You can see a [private trailer](#).

- Depth of Field custom rendering feature.
- VFX (Fire, Rain, Clouds, Volumetric Fog and more).
- Fluid simulations (Water, Mud, etc).
- Character shading with efficient contact shadows.
- Implemented planar and ray-traced reflections.
- Save, Game State and Input systems.
- Scalable ImGui debug menu.

### EDUCATION

#### Rey Juan Carlos University: Game Development Degree

Madrid, September 2017 - May 2022

- Developed several games with my colleagues, some are still on [itch.io](#).
- Got into competitive programming, which allowed me to learn a lot about algorithms, data structures and optimization.
- Worked part-time as a researcher in the field of Optimization Algorithms and released a [paper](#).

### SKILLS

Unity, C# and HLSL proficiency.

Unreal Engine and C++ experience.

Git and Perforce practical skills.

Cross-platform development for PC, Switch, PS4, PS5, Xbox One.

Low-level graphics APIs experience using C++/OpenGL and JavaScript/WebGL.

Profiling and Optimization extensive experience.

CPU and GPU architecture deep understanding that allows for more efficient code.

Memory management proficiency using Unity Addressables and Streaming.

Concurrent programming skills for efficient resource handling.

Solid mathematical foundations in Geometry, Trigonometry, etc.

### LANGUAGES

Spanish (Native)

English (Fluent)