



MARC GABERNET RODRÍGUEZ

CONTACT



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[LinkedIn](#)



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ABOUT ME

I'm a **mathematician** & a **video game developer** and **programmer** with the goal of applying my two passions, maths & programming by creating engaging and memorable experiences for players and always continue to learn.

Proficient in **C++**, **C#** & **OOP** in general, with extensive experience in **game engines** as well as a **degree in mathematics**.

I offer a technical profile that excels in **problem-solving** and complex challenges related to **maths**, gameplay mechanics, physics and AI with a track record of **adaptability** and **versatility**.

I consider myself a very **creative** and **motivated** person and I like to maintain myself active by practicing sports like bouldering, white-water kayaking and hiking while enjoying nature.

SKILLS

- **Languages:** C++, C#, C, Java
- **Game Engines:** Unity, Custom Engine
- **Tools:** Github, Visual Studio, ClickUp
- **Graphics:** OpenGL
- **Modelling:** Blender
- **Soft skills:** Problem-solving, Adaptability, Teamwork, Creativity

LANGUAGES

- **Catalan** and **Spanish** (native)
- **English** (IELTS C1 certificate/ studied abroad)

PROJECTS & EXPERIENCE



Hellheim Engine - Rolling Barrel Studio

- **Custom game engine** developed as master's degree final project with a team of 19 programmers, implemented using **C++** and **OpenGL** and **ImGui**.
- Developed **Physically Based Rendering** shaders using the Phong BRDF model.
- Implemented **timers** and managed **framerate** in the engine.
- Worked with **GLTF** files and imported the **animation data** into the engine, implemented **skinning** for 3D models and integrated the **animation component** for game objects.



Chrysalis

- Collaborated on a top down shooter game made with the **Hellheim engine**, with a team of 28 people, programmers, artists and designers.
- Helped implement the player's animations while working on the player's **state machine** and weapon, movement and dash behaviours, focusing on **responsiveness and game flow**.
- Focused on **level design**: working on level blockouts adding the assets to the level, creatively created miscellaneous scripts for different objects & added **environmental & prop VFX** to bring them & the levels to life and enhance the overall experience.



Virtual simulation of a laparoscopy - Numerical Factory

- Collaborated with Numerical Factory, a UPC's mathematics department project to develop my bachelor's degree final project.
- Worked in **Unity** to develop a **VR** simulation of a medical procedure.
- Focused on simulating the **physics** of a soft body object and the interactions with the laparoscopic tools.

EDUCATION



Master's degree in Advanced Programming for AAA Video Games

UPC (2023 - 2024)

Relevant skills developed: C++, Game & Level design, Engine & Gameplay systems, OpenGL, Unity.



Bachelor's degree in Mathematics

UAB (2019-2023)

Relevant skills developed: Logic, Problem-solving, Modelling & Optimization, Abstraction, C, Java.



11th grade

Afton Cental School, NY, USA (2017-2018)

Relevant skills developed: English, Adaptability.