

Miquel Prieto Moliné

GRAPHICS & ENGINE PROGRAMMER



Friendly Computers Scientist geek with passion for the programming, gaming and machine learning world!

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📄 <https://github.com/MacXxs> 🌐 <https://macxxs.github.io>
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Education

MASTER IN AAA VIDEOGAME PROGRAMMING

UPC School of Professional & Executive Development

September 2022 - November 2023

B.S. IN COMPUTER SCIENCE

Universitat Politècnica de Catalunya

September 2014 - June 2022

3D DESIGN AND PRINTING - JEDI ACADEMY

Universitat Politècnica de Catalunya

February 2017 - February 2017



Programming Languages

- C++
- C
- Java
- C#
- GLSL
- Python

Tools & Libraries

- Nvidia Nsight
- Unity
- Maya
- git
- SDL
- Assimp
- RenderDoc
- Optick profiler
- Blender
- OpenGL
- ImGui
- DirectXTex



Soft Skills

- Communication
- Quick Learning
- Hard Work
- Problem Solving
- Decision Making
- Time Management
- Leadership



Languages

- English
fluent
- Catalan
native
- Spanish
native

Projects

My own Game Engine | [Chrysalis Engine \(Public release\)](#) (Personal project) | Dec 2023 - Now

I'm creating my own game engine using **C++** and **OpenGL**. Feel free to check my [public release repo](#) to view the state and current features of the engine!

AAA Game Engine & Game | [Axolotl Engine - Starfall Rebellion](#) (Master's project) | Oct 2022 - Nov 2023

Lead graphics programmer and **engine programmer** for an **in-house game engine** and a **game** developed with it (using **C++** and **OpenGL**).

My responsibilities included **managing** the graphics team and **overseeing** feature development, as well as **programming**. Some notable developments of mine include:

- **Directional** and **local lighting**, with **light culling** for both local and area lights.
- **Cook-Torrance BRDF** reflective model for materials.
- **Shadow mapping** using techniques such as **CSM**, **VSM** and **SDSM**.
- **Geometry batching** for efficient rendering,
- The whole **particle system** and the **animations system**.
- **Deferred** rendering + **forward pass** with **light pass**
- **Space Screen Ambient Occlusion**
- **Vertex, fragment, geometry** and **compute shaders** development for all the previous features and more.
- Providing the **base implementation of the engine** with basic functionalities.
- Also helped in other areas such as **UI**, **level design** and **physics**.

Check my [portfolio](#) for more info about this and other projects!

[Diagnostic Imaging for Tracheobronchomalacia patients](#) (Bachelor's thesis)

Image processing tool implemented in **Matlab** that combines existing segmentation algorithms with custom ones to estimate airway aperture for individuals suffering from tracheobronchomalacia.

Developed in **collaboration** and for **use** at Barcelona's **Germans Trias i Pujol hospital**.



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Employment History

Full Stack Developer, Data analyst Consultant & Systems administrator | July 2018 - Now

MINSAIT BY INDRA - BARCELONA

- Developed and maintained internal applications for CaixaBank using Oracle APEX, PL/SQL, and Oracle Data Modeler, collaborating **directly with client** in both **team** and **solo** settings.
- Led the successful migration of a file transfer system from XCOM to Sterling Connect Direct through kshell and bash scripting.
- Managed and updated a customized internal Wiki for Indra on a Linux Red Hat platform.



Interests

- Graphics/Render programmer
- Engine/Tools programmer
- Gameplay programmer
- Machine learning appliance