

# Sergio Madaleno Figuerola

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## ABOUT ME

C++ developer with a focus on graphics programming. Skilled in OpenGL, Unreal Engine 5, and Unity. I bring a structured approach to solving complex technical challenges and aim to contribute to high-impact software projects within a collaborative environment.

## LANGUAGES

- Spanish: Native
- English: Fluent/Proficient (educated at Cambridge School Valencia and Caxton College Valencia)

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## Academic Projects

### "TIBIS" ESAT October 2024 – July 2025

Top-down game shipped with Unreal Engine 5

- Implemented in-game hazards and enemy behaviors, including a functional tank AI.
- Contributed to the implementation of in-game menus
- Collaborated in a team to deliver a playable prototype within academic deadlines.

### Graphics Programming October 2024 – July 2025

Developed advanced OpenGL rendering pipelines for real-time graphics, integrating ECS architecture and scripting for flexible game logic. Implemented volumetric cloud effects via raymarching, as well as shadow mapping, deferred rendering and SSAO techniques to enhance visual fidelity and performance.

### Procedural Generation – 2025

Used L-Systems in OpenGL to generate and render procedural plant and tree structures.

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## Technical Skills

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|--|---|
| - C++, C#, C – (+3 years)                  | - Scripting: Lua                              |
| - Graphics programming: OpenGL             | - JSON  |
| - Game Engines: Unreal Engine 5, Unity     | - Mobile Development: Kotlin, Jetpack Compose |
| - Version Control System: Github, Perforce | - Low-Level Programming: Assembly             |

## EDUCATION

### Caxton College

IGCSEs

Valencia, Spain

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## **Cambridge House British International School**

A-Levels

Valencia, Spain

September 2020 – June 2022

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## **ESAT (Escuela Superior de Arte y Tecnología)**

HND in Videogames programming

Valencia, Spain

October 2022 – June 2025

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