Guilherme Ribeiro Figueira

M.Sc. in Computer Science and Engineering

 github.com/grfigueira | linkedin.com/in/grfigueira
 My Portfolio | gr.figueira@proton.me

Experience

Unity XR Developer - Curricular Internship   03/2023 - 08/2023

Glartek   Leiria, Portugal (Hybrid)

- Implemented an AR 3D model manipulation feature for **Microsoft Hololens 2** using Unity, C# and MRTK while collaborating with the web development and design teams, adding to the project's feature suit.
- Used **linear algebra**, **memoization techniques**, and **search algorithms** to optimize performance and ensure reliable processing of imported 3D model for the supported formats.
- Created **unit and integration tests** for scripts that used the **Zenject dependency injection** framework, improving test coverage and code reliability.
- Collaborated using an **AGILE** methodology with **GitLab** for version control.

Projects

- Developed **C++** tools: **OpenGL** 3D renderer, an **ImGui / SDL2** desktop program for non-linear dialogue editing for games, an **OpenCV** computer vision program;
- **XR** masters thesis in **Unity / C#**; Puzzle game in **Unreal Engine 5 / C++** with **FMOD** audio;
- **Fullstack apps** including **Leaflet.js** + **PostGIS** Lord of the Rings interactive map and **Spring Boot/React** mock social network.

More projects with further details, videos and source code can be found in my **Portfolio** and **Github**.

Skills

Programming Languages:	C++ · C# · Java · Kotlin · TypeScript · Python · OCaml
Graphics & Tools:	OpenGL · WebGL · OpenCV · QGIS · Docker · Shell · Git
Web & Fullstack:	Vue.js · React · Spring Boot · REST · Leaflet · Eleventy
Game Engines & Frameworks:	Unreal Engine 5 · Unity · FMOD · ImGui · SDL2
Databases:	PostgreSQL · SQLite
Languages:	Portuguese (native) · English (proficient)

Education

Nova School Of Science and Technology   Lisbon, Portugal

B.Sc. + M.Sc. in Computer Science and Engineering   2020 - 2025

- **Master Thesis (Grade: 19/20)**: Developed Unity-based framework that enables the abstract design of Substitutional Reality experiences, allowing them to be dynamically adapted to arbitrary physical spaces.
- Co-authored an additional paper P1, on the topic.
- My implementation of **highly performant MR screen-space portals**, used in my research, is being ported into a **real-world museum application** at the *Portuguese National Tile Museum* in Lisbon, Portugal.

Publications

P1 **Towards Augmented XR Movement and Interaction Confidence across Substitutional Reality**
<u>Guilherme R. Figueira</u>, Rui Nóbrega
International Conference on Graphics and Interaction (ICGI), 2025