Guilherme Ribeiro Figueira

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SUMMARY

MSc Computer Science student with a strong foundation in game development. I bring not only technical expertise, but also a keen eye for detail and the best game design practices. My respect for this medium is deep and I am determined to be a valuable contribution to this industry.

EXPERIENCE

Unity XR Developer - Curricular Internship

Glartek **March 2023 - July 2023, Leiria, Portugal (Hybrid)**

- Implemented an experimental XR feature for **Microsoft HoloLens 2** using Unity3D and MRTK while collaborating with the web development and design teams, improving user interaction and the project's overall experience.
- Developed **unit and integration tests** for scripts utilizing Zenject dependency injection framework, improving test coverage and code reliability.
- Collaborated using an **AGILE** methodology and used **GitLab** for version control.

PROJECTS

The Naturals' Descent – Game Development Project

Games and Simulations Course - NOVA School of Science and Technology (FCT NOVA) • grfigueira.github.io/MyPortfolio/projects/tnd • April 2024 - June 2024

- Developed an action-adventure puzzle game in Unity3D as part of a **2-person team** where I contributed to both the gameplay mechanics and game design.
- Created a detailed **Game Design Document**, including concept art and a **Gantt Chart** to effectively delegate tasks and ensure we met the deadline.
- Designed and implemented a **procedurally generated cavern maze** using the **Wave Function Collapse** algorithm adapted to 3D, ensuring natural looking layouts with procedurally spawned enemies.
- Built a **scalable sigil jigsaw puzzle mechanic** that allows designers to easily create new puzzles with varying levels of difficulty.
- Implemented a **hoverboard riding mechanic** that takes advantage of Unity's physics engine and **AI humanoid enemies** that use NavMesh and a **curstom behaviour state machine**, as well as being appropriatly animated with **animation blend trees**.
- A **tweening library** was also used to add simple yet satisfying animations to various elements of the game, providing it with a more polished look and feel.
- Grade: 19.2/20.

Forlorn – Game Development Project

Games and Simulations Course - NOVA School of Science and Technology (FCT NOVA) • grfigueira.github.io/MyPortfolio/projects/forlorn • March 2024 (2 weeks)

- Doom-like first person shooter developed in Unity 3D as a solo project, focusing on fast-paced combat and platforming-based level design.
- Created a **responsive player controller** with smooth, fast movement that includes a **jetpack mechanic** for vertical mobility making both the combat encounters and the platforming more fun.
- Grade: 20/20.

Phong Lighting Simulator in WebGL - Computer Graphics Project

Computer Graphics and Interfaces Course - NOVA School of Science and Technology (FCT NOVA) • github.com/grfigueira/CGI-Projeto3 • December 2022 (2 weeks)

- University group project composed of 2 people.
- Built 3 types of lights using the **Phong Lighting** technique and **HLSL shaders**: Pontual light, Directional light and Spotlight.
- Created a simple 3D scene using WebGL to see the effect of the lights.
- Grade: 20/20.

EDUCATION

Integrated Master's Degree in Computer Science and Engineering

NOVA School of Science and Technology (FCT NOVA) • Almada, Portugal • 2020-2025 (ongoing)

- Master Thesis: *Video see-through Augmented Reality for Collaboration and Exploration in museum contexts.*
- Some relevant coursework include: *Games and Simulations, Computer Graphics and Interfaces, Object Oriented Programming, Interpretation and Compilation of Programming Languages, Artificial Intelligence, Software Engineering.*
- EQF Level 7.

INVOLVEMENT

Volunteer at Expo FCT - Computer Science Department

NOVA School of Science and Technology (FCT NOVA) • EXPO FCT • April 10th 2024

- Introduced the university and talked about the Computer Science degree to attending high school students while answering any questions they had.
- Assisted the *Virtual Reality and Games* activity in the Computer Science department.
- Helped with the recreational activities and setting things up beforehand.

SKILLS

Programming Languages: C#, C++, HLSL, ShaderGraph, UE Blueprints, WebGL, Python, Java, OCaml

Game Engines: Unity3D, Unreal Engine 5

Tools: Git, Unix Bash, Vim, Docker, Blender, Adobe Photoshop, Adobe Premiere

Natural Languages: English (fluent), Portuguese (native), Spanish (Basic understanding)

Other information: Drivers License Category B/B1, theater acting experience, basic musical education