Guilherme Ribeiro Figueira

MSc Computer Science Student | Game Developer

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Almada, Portugal

My Portfolio: grfigueira.github.io/MyPortfolio

Summary

Soon to graduate MSc Computer Science student with a strong foundation in game development, eager to enter the games industry. I bring not only technical expertise, but also a keen eye for detail and good game design practices. Started making games at the age of 15 to merge my passion for programming with creative expression. I respect this medium very much and am determined to be a valuable contribution to the industry.

Experience

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

Glartek Leiria, PT (Hybrid)

- Implemented an 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.
  - Utilized **3D vector math**, **caching techniques**, and **search algorithms** to optimize performance and ensure reliable real-time 3D model processing.
- Developed **unit and integration tests** for scripts using Zenject dependency injection framework, improving test coverage and code reliability.
- Collaborated using an **AGILE** methodology and used **GitLab** for version control.

Education

Integrated Masters in Computer Science and Engineering 09/2020 - Present

Nova School of Science and Technology (Nova FCT) Almada, PT

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

Projects

The Naturals' Descent - Unity Game 04/2024 - 06/2024

Games and Simulations Course Nova School of Science and Technology (Nova FCT)

- Action-adventure puzzle game developed in Unity3D as part of a **2-person team**.
- Created a detailed **Game Design Document**, including concept art and a **Gantt Chart**.
- Designed and implemented a **procedurally generated cavern level** using the **Wave Function Collapse** algorithm adapted to 3D, ensuring natural looking layouts with procedurally spawned enemies.
- Built a **scalable sigil puzzle mechanic** that allows designers to easily create new puzzles with varying levels of difficulty.
- Implemented **AI humanoid enemies** that use NavMesh and a custom behavior state machine, as well as being animated with animation blend trees.
- A **tweening library** was 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

Phong Lighting Simulator in WebGL 12/2022 (2 weeks)

Computer Graphics Course Nova School of Science and Technology (Nova FCT)

- 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

Skills

Game Engines: Unity, Unreal Engine 5
Programming Languages: C++, C#, HLSL, Shadergraph, UE Blueprints, WebGL, Java, Python
Tools and Frameworks: Git, UNIX Shell, VIM Docker, LaTeX
Multimedia: Blender (basics) , Adobe Photoshop, Adobe Premiere
Languages: Portuguese (native), English (proficient), Spanish (basic understanding)
Other information: Drivers License Category B/B1, 5 years of amateur theater acting experience, basic musical education

Volunteer Experience

Expo FCT Volunteer Nova School of Science and Technology 2024/04/10

- 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.