Vítor Magalhães

Software Developer at Ocean Infinity

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🎓 Education

Faculty of Engineering at University of Porto   2015 – 2020

Master's Degree in Informatics and Computing Engineering   *Porto, PT*

> Masters thesis focused on Flexible and Interactive Navigation in Synthesized Environments
> Based on the developed work in the INESC Internships
> **Published** in the Open Repository of the University

🥧 Experience

Abyssal/Ocean Infinity   November 2020 – Present

Software Developer   *Porto, PT*

> Develop code for the Abyssal Simulator and the Simulator Studio Plugin.
> Use Unreal Engine 4 as the main tool, in a Scrum environment.
> Implemented features throughout the span of three projects.
> Refactored vehicle multi camera system, making code more modular and easing camera management during simulations.
> Refactored older components into more generic and easily usable functionalities.
> Researched all mesh collision points detection and improved its performance to stable 60fps.
> Developed new User Interface Widgets.
> Update Documentation after new features or refactors.

Institute for Systems and Computer Engineering, Technology and Science   August 2019

Summer Internship at INESC TEC   *Porto, PT*

> Implemented a system capable of generating a 3D scene based on a description written in a JSON file.
> Developed in the Unity Game Engine.

CONTROLAR - ELETRÓNICA INDUSTRIAL E SISTEMAS, LDA.   July 2017 – August 2017

Web Developer, Summer Internship at Controlar   *Alfena, PT*

> Implemented a ticket system for the company's stock management.
> The main focus was learning Web Development as well as working on a professional environment.

🧪 Projects

Tetrascape (*Trailer*, *Itch.io page*)
Game Developer, Unreal Engine 4

March 2019 – June 2019
Portugal, PT

> A top-down game project for the subject of Video Game Development, in collaboration with two other courses, in which the player controls one of four switchable characters, each with their own ability to complete puzzles and survive in combat.
> The code features class inheritance for the AI, for each playable character and the combat skills. Some mathematical work was done with the chain lightning skill and when firing a gun to make it easier to hit. Interfaces were used for the lasers in game.
> I worked on the combat skills and a bit on AI. By working with the 3D artists, I was able to insert the models and animations files into the engine, as well as develop the animation systems of each model. I also inserted audio files into the engine and programmed their usage.

MIEICrawler (*Trailer*, *Itch.io page*)
Game Developer, Unity

February 2019 – March 2019
Portugal, PT

> A Dungeon Crawler game project for the subject of Video Game Development, in which the player must beat each level and its boss, who are either fights or puzzles, and can upgrade their skill tree with Experience Points to further enhance their abilities.
> The code features class inheritance for the enemy AI and the player skills. Some mathematical work was done with the bounce skill. The skill tree is a graph of nodes where each node has a stat for the correspondent skill.
> I worked on the combat abilities and the AI, as well as on level design.

Draft Cure (*Trailer*)
Game Developer, Unreal Engine 4

February 2020
Portugal, PT

> A first person game developed for the Global Game Jam 2020, in which the player must use their skills and repair their broken mind, by beating each boss.
> The AI of the only developed boss uses AI perception to listen to the player's movement. The player must draw attention to bonfires so the boss can be defeated. The player has a skill which allows them to recover the health from 5 seconds ago.
> I worked on the combat abilities and helped building the AI, as well as on the level design. I also imported the created models and animations and created the animation system for the boss.

Warriors from Deep Space (*Trailer*)
Game Developer, Unity

October 2019 – November 2019
Portugal, PT

> A Virtual Reality First Person Space Shooting Game project for the subject of Virtual and Augmented Reality, in which the player must defeat rounds of enemies, while dodging them and the asteroids in the environment.
> A PSVR was used as the HMD and a joystick as the controller.
> SteamVR was used to connect the HMD and iVRy Driver to connect the PSVR.

Board Game
AI Developer, Java

October 2018 – December 2018
Portugal, PT

> An AI based project for the subject of Agents and Distributed Artificial Intelligence, inspired by the popular Secret Hitler Board Game.
> The code features Agent communication via Jade library.

> The code features class inheritance for the agents. The parent class inherits from the class Agent in order to communicate.
> I worked on the logic of each Agent Player (Fascist, Liberal and Hitler), as well as the parent Player and the Board agent which manage the game.

As Aventuras de Vô João no Ciberespaço (*Itch.io page*)   May 2019 – June 2019
Interactive Narrative Design, Twine 2   *Portugal, PT*

> An interactive story for the subject of Interactive Narratives, with the objective of converting a linear story into an interactive branching narrative.
> I implemented the interactive section of the project as well as most narrative branches. The players can see their choices at the end of the story.

⚙ Skills

Programming Languages C/C++, Java, JavaScript (WebGL), Python (Computer Vision), C# (Unity)

Game Engines Unreal Engine 4, Unity

Development tools Visual Studio Code, Git, GitHub/GitLab, Jira

Tech Skills Develop modular and documented code

Soft Skills Easily get into teams, willing to learn, communication and teamwork

Languages Portuguese (Native), English (Proficient - Fluent)