Lucas Garcia Dominguez

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About me

Backend developer with a strong background in C++ and C#, gained through over 6 years of experience working on complex game development projects. Currently, I'm more focused on backend technologies, primarily in the .NET environment, leveraging my deep understanding of object-oriented programming, complex algorithms data structures, and design patterns. I also have experience in frontend development using React and Angular, which enables me to work across the full stack of a web application. In addition, I am proficient in game development technologies for both PC and mobile platforms, as well as in AR and multiplayer projects.

I have worked with various runtimes, libraries and frameworks, including ASP.NET, Node.js, React, Angular, Qt, Unity, Unreal Engine and Visual Studio. I am proficient in relational databases such as MySQL and Microsoft SQL Server, and I have experience with ORMs like Entity Framework. I am also well-versed in C++ libraries such as OpenGL, SDL2, Bullet and Box2D.

Professional experience

Systems technician, ZTE Spain, Gijon, Spain

December 2024 – Now

I perform technical support functions for N1 and N2 network levels, managing incidents related to telecommunications services. I provide technical assistance to field and network technicians deployed throughout the Cantabrian coast in Spain.

Host, National Hospitality Awards, Oviedo, Spain

November 2024 – November 2024

Worked as a host during the 18th edition of the National Hospitality Awards held in Oviedo.

Restaurant Waiter, GiGroup, Gijón, Spain

May 2023 – August 2023

Employment as a waiter in the VIP box, at the bar and with a backpack during several games at the "El Molinón Enrique Castro Quini" stadium.

Job Putting Bracelets, Boombastic Festival, Llanera, Spain

July 2023 – July 2023

Employment as a bracelet maker/customer service throughout the Boombastic 2023 festival in Llanera.

Projects

Projects Backend

- <u>Minimal API Beer Inventory ASP.NET:</u> Simple API created to structure a Microsoft SQL Server database using Entity Framework. Additionally, it generates endpoints to handle HTTP requests from the client. Project under development.

Projects Frontend

- <u>Movie Platform in React.js:</u> Web application developed with React that allows users to explore a movie database fetched from the TMDB API. It includes features such as search, filtering, and movie detail display, as well as a night mode, all within a modern and responsive interface.

C++ Projects

- <u>Game Engine in C++:</u> Engine done using the pattern ECS that can generate and build games with the features of the engine. Sandbox where I try different features and where I improve my C++ skills.

- <u>Qt Application with OpenGL:</u> Qt application that replicates the interface of the typical game engines.

- <u>3D Animation with Bullet:</u> Project that uses SFML and Bullet for generating a simple game.

Unity Projects

- <u>Reinforcement Learning Unity Package:</u> This project implements a Unity package that simplifies the training of neural networks in interactive scenarios using the reinforcement learning (RL) algorithm provided by ML-Agents. The package leverages Python libraries such as NumPy and PyTorch to manage data and train models.

- <u>Virtual Interactive Tour:</u> Virtual Tour in Unity that allows seamless transitions between day and night. I focused on creating baked lighting and reflections, using an optimized lightmap system to ensure smooth and realistic shifts without any performance drops.

- <u>Iver's Tales:</u> Dungeon Crawler type game in 3D done with university pals. I am mainly in charge of leading the project and the development of the AI of both enemies and bosses. At the same time, I also manage the programming associated with VFX, shaders, social media and to a lesser extent the character. Project currently in development.

- <u>Vestiges Of The Empire:</u> "City Builder" type game set in Roman times. It is made by me in its entirety. The project was thought of as a kind of "total" project where in a short period of time (7 months), I could fully develop a game and take my technical knowledge to another level. The game has a strong focus on C# programming in Unity.

- <u>Online Cars:</u> Online project done in Unity that allows players to play locally connected to the same port. The game has a server that needs to be initialized first and then players will be able to start logging in. This was my first approximation to multiplayer developments.

- <u>Chernobyl Quizz AR:</u> Project done in Unity. Game Quizz about the Chernobyl disaster that uses AR technology. For playing the game, the player will need to scan the image of the biohazard symbol.

Others

- <u>EntreNeones:</u> Local podcast in Gijón that I had with school partners. We interviewed people of great importance in our local area such as the actual mayor in Gijón. I was in charge of team management, contact with interviewees, audio editing, infrastructure assembly, graphic design and, to a lesser extent, social networks.

Education

Video Game Engineering, UDIT University of Design And Technology, Madrid, Spain

September 2020 - June 2024

Official British Title HND in Art And Design, UDIT Asturias University of Design And Technology, Oviedo, Spain

September 2020 - June 2023

Bachelorship and High School, IES Roces, Gijón, Spain

September 2014 - June 2020

First Certificate in English (B2 First), University Of Cambridge

February 2018

Languages

English (Level C1)

Spanish Native

Skills

Programming Lenguages

- Modern C++
- C#
- HTML, CSS, Javascript
- Python
- PHP

Technologies Backend

- .NET Environment (ASP.NET, Entity Framework, SQL Server)
- Node.js

Technologies Frontend

- React
- Angular

GameDev Technologies

- Unity
- Unreal Engine
- OpenGL
- GLSL
- SDL2 & SFML
- Game Engine Architecture
- AI for Videogames
- Real-time Physics / Collisions (Bullet & Box2D)

Others

- Git
- Plastic
- Visual Studio
- Premiere Pro
- Audacity

Hobbies

- Sports: kayaking, gym, hiking.
- Reading
- Cinema
- Videogames

Additional Information

- Other topics I have experience: game sounds, shaders, post-processing and lighting, UI animations, 3D asset creation, game loops, character controller, simulation systems, procedural creation of playing field, UI design.

- Full driving license.