Francisco Fernández Barroso

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Summary

I am a Software Engineer with a passion for Videogame development. I have 4 years of professional experience at Pix4D, a bachelor's degree in Computer Engineering, and a master's degree in progress in Videogame programming. I am skilled in C++ and Python, as well as in Unreal Engine and Unity.

Work Experience

Software Engineer, Pix4D   Jan 2024 - Present

- Led the integration of masks I/O in Pix4Dmatic, improving the application's command query management system in the process, using C++ and Qt.
- Developed a QA, CI, and performance tracking system, enabling the parametrized analysis of image masking results, using C++ and Python.
- Contributed to the integration of segmentation masks into Pix4Dmatic, using C++ and Qt.
- Supervised annotators on the labeling of masks for QA purposes.

Junior Software Engineer, Pix4D   Sep 2022 - Dec 2023

- Assisted in developing a QA and CI pipeline to help improve the results and testing of a machine learning system to generate BIM models, using C++ and Python.
- Enhanced Pix4Dsurvey's pole detection algorithm by filtering point cloud sections, resulting in a 15% improvement in F1-score, using Python.
- Led and supervised multiple QA data provisioning and annotation campaigns.

Software Engineer Intern, Pix4D   Apr 2021 - Jul 2022

- Automated QA related workflows using Python and C++.

Education

Videogame Programming Master's Degree   Oct 2024 – Present
Universidad Complutense de Madrid

Computer Engineering Bachelor's Degree   Sep 2016 – Jun 2022
Universidad Politécnica de Madrid

Technologies

Programming Languages: C++, Python, C#, C, Java
Frameworks and Engines: Unreal Engine, GAS, Unity, SDL2, Qt/QML
Other Tools: Git, Perforce, Concourse, Jenkins, Cmake, Perftracker, Linux, Jira

Other Accomplishments

- **CHIP-8 emulator:** implemented an accurate CHIP-8 emulator using C++ and the SDL2 library.
- **Gōu:** participated in the Mini Jam 182: Horror as part of a group, using Unity to create an atmospheric horror game, in which I developed the AI, as well as many other systems.
- **Project Acidalia:** developed a prototype of a farming/survival game using Unity and C# for my bachelor's degree thesis, in which I obtained honors.
- **Breathdown:** participated in the Global Game Jam 2024 as part of a group to create a survival game, in which I developed the game logic, the character movement, and the levels using Unity.
- **Get Out of my Dungeon!:** participated in the GMTK Game Jam 2023 as part of a group to develop a dungeon building game, in which I implemented the AI's pathfinding using Unity.
- **Community Involvement:** did volunteer work for 5 years at a charity's foodbank.