Albany, NY
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Arnold Lopez

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Senior software engineer and game programmer building real-time gameplay systems and game mechanics in Unity. Strong background in C# and C++, performance optimization, and debugging complex runtime behavior. Experience across commercial games, Navy and aviation training systems, and simulation projects, with a focus on clean, maintainable production code.

Work Experience

Interactive Simulation Programmer **Engineering & Computer Simulations** **June 2022 – Aug 2025**
Reactor Servicing team   Ballston Spa, NY
- Developed a GPU-based rope physics system in Unity, improving performance stability and increasing frame rate from approximately 90 to 120 FPS in prototype testing.
- Implemented tool and equipment interactions in VR using Unity, Mirror Networking, and XR Interaction Toolkit to support interactive training scenarios.
- Investigated and integrated Unity profiling and tooling into Azure DevOps CI pipelines to support automated performance monitoring.

Graphics Software Engineer **Leidos** **May 2018 – July 2021**
Periscope Simulator team   Rockville, MD
- Designed and implemented an OpenGL Compute shader-driven particle system and a standalone node-based particle editor using Qt, CMake, and CPack.
- Integrated SteamVR and OpenVR headset tracking into networked systems to enable synchronized VR interactions.
- Diagnosed and resolved complex rendering pipeline issues, including atmospheric sky rendering, ocean simulation, post-processing effects, and particle systems, improving visual fidelity and runtime stability.

iOS Application Developer **Mobile Consulting Solutions** **June 2017 - Jan 2018**
Atlanta, GA
- Implemented Swift-based user interface features for a production aviation training application used by Gulfstream pilots.
- Updated and maintained airport and runway datasets using SQLite with Jeppesen source data, ensuring accuracy and consistency across releases.
- Collaborated within a small, cross-functional agile team delivering a commercial aviation training product.

Game Programmer **Incredible Technologies** **Fall 2016**
Vernon Hills, IL
- Contributed to gameplay logic, UI features, scripting, and testing on Golden Tee Golf mobile.

Technologies and Languages

- Languages: C#, C++, Python, Swift
- Technologies: Unity, XR Interaction Toolkit, Mirror Networking, OpenSceneGraph, OpenGL
- Other: Shader Development (CG & HLSL, GLSL), NVIDIA Nsight Graphics, Unity Test Framework

Education and Certifications

- **B.Sc. Computer Game Development,** DePaul University, Chicago.   **2010 – 2015**