Marisol Quintero Lead Engine Programmer

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PROFILE SUMMARY

- **Lead Engine Programmer** with **14 years** on **AAA live-service shooters**, leading **7 engine programmers** on core runtime, streaming and performance for **console and PC releases**.
- Works in **C++20** on the **IW engine** and, before that, Bungie's **Tiger engine**, with **PIX**, **Razor**, **Superluminal**, **Perforce** and **Incredibuild** on PS5, Xbox Series X|S and PC.
- Deep experience in **engine architecture and code ownership**, **world streaming for large maps**, and **job systems and allocators**, using **per-system frame budgets** and **nightly capture runs** so several studios can ship on one engine branch.
- Partners with **Rendering**, **Online**, **Production** and **studio technical directors** across Call of Duty, from milestone planning to the certification checklist.
- Leads **7 engine programmers**, has mentored 4 of them to senior, chairs the **weekly engine architecture review**, and wrote the team's **engine change review guide**.

TECHNICAL SKILLS

Programming Languages:	C++20, C++17, Python, Lua
Game Engines:	IW engine (in-house), Tiger engine (in-house), Unreal Engine 5 (evaluation)
Low-Level Systems:	Job graphs, fibers, pool and frame allocators, lock-free queues, data-oriented design, SIMD (AVX2, NEON)
Profilers & Debuggers:	PIX, Razor, Superluminal, Intel VTune, Visual Studio, WinDbg
Platforms & SDKs:	PS5, Xbox Series X|S, PS4, Xbox One, Windows, TRC and XR requirements
Build & Version Control:	Perforce, Incredibuild, Jenkins, TeamCity, Git
Editor & Pipeline Tools:	Qt editor tools, Dear ImGui, Python pipeline scripts, FlatBuffers

EDUCATION

University of Southern California — **M.S. in Computer Science** — Los Angeles, CA · Aug 2010 to May 2012

WORK EXPERIENCE

Infinity Ward — **Lead Engine Programmer** — Woodland Hills, CA · Apr 2019 to Present

- Lead **7** engine programmers on the IW engine's core runtime, and set the module boundaries and code ownership rules that let 4 Call of Duty studios work on one engine branch.
- Led the rework of world streaming for large Warzone maps, with priority by player density and predictive loading, and cut pop-in bug reports by **64%** between seasons.
- Ran performance strike teams before each Modern Warfare II milestone, with per-system budgets and nightly **PIX** and **Razor** captures, holding 60 fps in **95%** of benchmark frames on console.
- Moved the engine team to distributed compilation and a shared build cache on **Incredibuild**, bringing the average incremental build for **400+** developers from 9 minutes to under 2.
- Ran the engine team's certification checklist across **5** platforms for the Modern Warfare II launch, with zero engine-side failures in the launch submissions.

Bungie — **Senior Engine Programmer** — Bellevue, WA · Jun 2012 to Mar 2019

- Moved simulation and animation work onto the **Tiger engine**'s job graph for Destiny 2, raising average CPU use across 8 console cores from 54% to **79%**.
- Designed per-activity memory pools for Destiny 2's activity loading, which cut fragmentation and freed **180 MB** on PS4 for new raid content.
- Built in-engine tools that let designers replay network sessions and inspect entity state frame by frame, adopted by **60+** designers and QA testers across the studio.