Juan Becerra

Software Engineer – Gameplay, Animation & AI Systems

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Summary

Software engineer with 5+ years of AAA game development experience building gameplay, animation, tools, and AI systems. Built high-impact production tools that helped ship games, adopted across multiple studios to speed up content creation.

Experience

Electronic Arts – Lifestyle **2025 – Present**
Software Engineer – Tools & Tech-Art *Kirkland, WA*

- Architected a project-agnostic Maya/Python animation stylization tool that leverages existing animation databases to generate content for new projects, adopted across multiple EA studios and reducing manual keyframing by over 70%.
- Engineered a high-throughput Unreal Engine C++ plugin exporting runtime character trajectory, pose, and velocity data to populate motion-matching animation databases.
- Prototyped a retrieval-augmented generation (RAG) system that retrieves animations by characteristics such as style, mood, and posture, using machine learning (ML) for automated asset tagging.

Electronic Arts – Maxis Studios **2021 – 2025**
Software Engineer – Gameplay & Animation *Seattle, WA (Remote)*

- Architected a multithreaded asynchronous path-planning and navigation API in C++ for *Project Rene* (*The Sims*, Unreal Engine 5), enabling deterministic path following in multiplayer with real-time obstacle avoidance.
- Implemented locomotion and animation runtime systems: motion matching, distance matching, custom inverse kinematics (IK), and animation event systems.
- Built in-editor tuning tools and visual debuggers for behavior trees and animation, used by designers and animators.
- Profiled memory, compute, and frame budgets for dense crowd and multiplayer simulation, eliminating hitches in character evaluation graphs and spatial query sweeps.

Lionbridge **2020 – 2021**
Senior Games Test Engineer *Boise, ID*

- Led a QA team testing live-service multiplayer AAA titles, writing engine-level bug diagnostics in Jira.

Projects

ProtoBoy | *C++, Unreal Engine 5, Model Context Protocol (MCP), LLM Agents* | GitHub **Nov. 2026**

- Built an MCP server from scratch in C++ as an Unreal Editor plugin, grounding AI coding agents (Claude Code, Gemini CLI) in a game's design docs through retrieval tools and agentic workflow prompts.
- Built asset sourcing that searches artist storefronts (Fab) for assets that fit the project's art direction doc and established art style, so agents source human-made assets instead of generating them.
- Built agent guardrails: bearer-token auth, human-in-the-loop write approval, append-only edits, audit logging.

Fellowship | *C++, Unreal Engine 5, Motion Matching, Automation Testing* | GitHub **Nov. 2026**

- Developing a co-op multiplayer fantasy action RPG about long voyages with friends, built around traversal mechanics: IK-driven climbing and motion matching with per-weapon Pose Search databases.
- Built lock-on combat, a spatial grid inventory with diegetic UI, data-driven enemy AI, and automation tests.

Hoowan Game Engine | *C++, OpenGL, EnTT, Box2D, ImGui* | GitHub **2020**

- Built a 2D engine with a batch renderer (thousands of quads per draw call), ECS, physics, C++ scripting, profiler.

Technical Skills

Languages: C++, Python, C#, C, Rust, Java, TypeScript, SQL, Lua
Engines & Graphics: Unreal Engine 5 (UE5), Unity, Godot, Vulkan, OpenGL, WebGL, Three.js, GLSL
Gameplay AI: Game AI, Navigation/Pathfinding, Crowd Simulation, Animation Programming, Motion Matching, IK
AI & ML: LLMs, AI Agents, Model Context Protocol (MCP), RAG, Prompt Engineering, PyTorch, GenAI
Systems & Tools: Multithreading, Performance Optimization, Profiling, ECS, Tools Programming, Maya API
Process: Git, Perforce, CI/CD, Jira, Agile, Code Review, Automated Testing

Education & Continuing Studies

Boise State University **2017 – 2021**
Bachelor of Science in Computer Science *Boise, ID*

University of Washington (Continuing Education) **2026 – Present**
Graduate Coursework in Machine Learning & Deep Learning (Non-Degree, In Progress) *Seattle, WA*