

Jacob Fernandez

Gameplay Programmer | San Antonio, TX

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EDUCATION

University of the Incarnate Word

Expected Dec. 2026

Accelerated B.F.A./M.F.A. in Game Programming, Minor in Computer Information Systems

San Antonio, TX

- **GPA:** M.F.A. 4.00, B.F.A. 3.51
- **Honors:** Triple A Programmer Award (2024), Dean's List (four semesters)
- **Coursework:** Data Structures and Algorithms, Object-Oriented Programming, Advanced C++, 3D Math

EXPERIENCE

Project FairyTale, M.F.A. Graduate Studio Team

Aug. 2025 – Aug. 2026

Gameplay Programmer, turn-based horror game (completed)

San Antonio, TX

- Built **seeded procedural generation** for room layouts: a new map every run, repeatable by seed
- Programmed every **item** and the full **UI**, and integrated all SFX, VFX and cutscenes
- Shipped the completed game in one year with a cross-functional team of five
- Took requirements from designers and artists and integrated their work mid-sprint

University of the Incarnate Word

Aug. 2025 – Jul. 2026

Teaching Assistant, Advanced C++ and Systems Programming

San Antonio, TX

- Reviewed code for **20 students** every two weeks, on every project
- Taught advanced **C++** to two cohorts: memory management, pointers and design patterns
- Coached students on behavior trees, movement systems and Unreal's **Gameplay Ability System**

PROJECTS

Hack and Slash Combat System | C++, Unreal Engine 5.7 | [GitHub](#)

2026

- Wrote **30 gameplay classes** (about 8,900 lines of C++) as focused combat, camera and UI components
- Drove combo windows from **7 custom AnimNotifies**, buffering early presses until a window opens
- Tied sword traces to each swing's active frames, at **0.02 ms** per frame

Metal Gear Mechanics | C#, Unity, NavMesh | [GitHub](#)

Oct. 2023 – Oct. 2026

- Rebuilt Metal Gear Solid's stealth loop, with guard AI split into **five state classes**
- Kept guard detection at **0 B allocated per frame** with 584 guards active
- Ran vision-cone checks before raycasts, so line-of-sight rays only fire for targets in view

OpenGL Rendering Engine | C++17, OpenGL, GLSL, Lua, ImGui | [GitHub](#)

Apr. 2025 – Sep. 2026

- Wrote a renderer on raw OpenGL: **206M triangles** per frame at 14.1 ms GPU time at 1440p
- Built a live reflection sphere: the scene renders to a cubemap six times per frame, with Fresnel
- Added an ImGui editor and Lua-defined scenes, so changes need no recompile

LEADERSHIP

UPGRADE Program, University of the Incarnate Word

Nov. 2022 – Nov. 2025

UPGRADE Ambassador

San Antonio, TX

- Served as the spokesperson for the programming side of UIW's game development program
- Ran Unreal and Unity demos for high school students at recruiting events

TECHNICAL SKILLS

Languages: C++17, C#, Lua, GLSL, Python, SQL

Engines and Tools: Unreal Engine 5, Unity, ImGui, CMake, Git, Visual Studio, GitHub Actions

Gameplay: state machines, input buffering, Gameplay Ability System, NavMesh, profiling

Performance: frame profiling, GPU timer queries, memory management, allocation reduction

AI Tools: Claude Code, Cursor, OpenAI Codex, GitHub Copilot