

Hemal Patel

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PROFESSIONAL SUMMARY

Senior Game Programmer with over 10 years of experience **designing and shipping gameplay systems, engine features, and tools** in Unreal Engine and Unity. Equally strong in **C++ and C#**, with deep expertise in **system architecture, 3D math, physics, multiplayer networking, and engine internals**. Proven ability to **drive technical execution**—including contributing to a full engine migration from Unity to UE5—while collaborating with **cross-disciplinary teams** across art, design, and audio. Track record of **shipping production titles** on PC, mobile, and XR platforms. Passionate about clean, performant, and maintainable code across the full game development stack.

SKILLS

Languages: C++, C#, Lua, Python

Engines & Frameworks: Unreal Engine 4/5, Unity, Godot

Engineering: Gameplay Systems, System Architecture, Physics/Collision, Multiplayer Networking, AI & Behavior Systems, Multithreading, Memory Management

Technical Skills: 3D Math & Linear Algebra, Performance Profiling & Optimization, Gameplay Prototyping, Rapid Prototyping, CI/CD Pipelines, Automated Testing, Cross-Platform Development (PC, Mobile, XR)

Tools: Git, Perforce, Visual Studio, Unreal Insights, RenderDoc, JIRA, BuildGraph, Docker

SHIPPED TITLES

Wave Beta (Unreal) | **Wave Standalone** (Unreal) | **Alimentary Avengers** (Unity)

Tafe Planetary Plus (Unity) | **E-Smart** | **Be Safe, Be Smart!**

EXPERIENCE

Software Engineer II

Nov 2019 – Dec 2025

WaveXR

Remote

- Played a key role in a major **engine migration from Unity to Unreal Engine 5**, architecting core systems in C++ and ensuring feature parity across the full product stack.
- Led a cross-functional engineering team to develop a core Social Experience, overseeing system design, strategic decision-making, and technical mentorship for junior developers.
- Owned large gameplay features end-to-end—from design through implementation and optimization—developing, modifying, and debugging interactive systems in **C++ and Blueprints**.
- Designed and implemented **server-authoritative networking** architecture, solving complex replication, prediction, and latency challenges for **multiplayer gameplay on PC, mobile, and XR platforms**.
- Defined and enforced **performance budgets** using **Unreal Insights** and profiling tools, achieving 80%+ optimization in memory and frame time on target hardware.
- Partnered with **cross-disciplinary teams** (art, design, audio) to rapidly prototype **gameplay features**, prioritizing playable iteration to validate requirements early.
- Developed custom **editor tools and build automation** to streamline content pipelines and CI/CD workflows, significantly reducing iteration time across the studio.
- Drove **code review culture** and authored internal technical documentation, improving code quality and onboarding efficiency across a distributed team.
- Diagnosed and resolved complex cross-system issues spanning **physics, animation, networking, and rendering** using systematic debugging and profiling methodologies.

Unity Programmer (Contract)

Nov 2015 – Nov 2020

Razor Edge Games

Remote

- Engineered core **gameplay systems** in C#, including turn-based simulation, inventory management, and survival mechanics, architecting clean, extensible code for long-term maintainability.
- Collaborated with **cross-disciplinary teams** to architect and implement the **Character Creator** system from concept to completion, managing complex mesh, animation, and UI interactions.
- Built custom **editor tools** and extensions that streamlined the content creation pipeline, reducing iteration time for artists and designers.
- Debugged complex rendering and visual systems, resolving mesh-to-spline conflicts and implementing **custom shaders** for holographic UI effects.
- Established **coding standards** and led code reviews to ensure quality and maintainability across a distributed team.

Unity Developer

Jun 2014 – March 2015

Smartcloud Infotech Pvt. Ltd.

Pune, India

- Developed and shipped multiple **interactive commercial applications** on mobile platforms using Unity, delivering on strict client requirements and timelines.
- Consulted with clients to define project scope, provided accurate technical estimations, and recommended process improvements.
- Implemented and iteratively refined **UI/UX and interactive features** based on direct client feedback, driving rapid iteration cycles.

TECHNICAL PROJECTS

ElementalArsenal | C++, Unreal Engine 5, Gameplay Ability System, Editor Tools

- Engineered a modular gameplay plugin extending **GAS** to support data-driven equipment pipelines and automated elemental reactions, applying **vector math and collision logic** for spatial gameplay mechanics.
- Built custom **Editor Tools** to automate asset generation, significantly accelerating the workflow for gameplay designers.

UniversalDataSync (NeoDataSync) | C++, Unreal Engine, Multiplayer

- Architected an Unreal Engine plugin to streamline replication of arbitrary data structures in multiplayer environments, reducing networking boilerplate for complex **gameplay states**.

NeoThreads | C++, Unreal Engine, Multithreading

- Developed a lightweight concurrency framework to offload computationally expensive operations from the Game Thread, improving frame stability and performance for CPU-intensive gameplay systems.

EDUCATION

DePaul University

MS in Computer Game Programming

Online
Coursework Completed (Capstone Pending)

CEPT University

Master of Business Administration. Information Technology and Project Management

India
2014

Gujarat Technological University

Bachelor of Technology in Information Technology

India
2012