Hemal Patel

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PROFESSIONAL SUMMARY

Senior Engineer with over 11 years of experience architecting high-performance systems and a versatile Generalist with expertise spanning UI, Gameplay, and Backend systems. Proven track record of working on multiple engines (Unity, Unreal), mentoring engineering teams, and shipping titles from concept to live-service. Subject matter expert in Multiplayer Networking and Performance Optimization.

SKILLS

Languages: C++, C#, Lua, Python
Game Engines: Unreal, Unity, Godot
Programming: Core Engine Systems, Multiplayer Networking (Replication/Prediction), Multithreading, Memory Management, Performance Profiling, Live Service (GAAS)
Core Competencies: System Architecture, Technical Leadership, Mentoring, Console/VR Optimization, Cross-Discipline Adaptability, Self-Directed Development, Technical Communication
Tools: Perforce, Github, BuildGraph, Unreal Insights, RenderDoc, Visual Studio, Rider, JIRA, AWS
AI Agents: Claude, Gemini, Copilot

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*

- Demonstrated high **self-sufficiency** while wearing multiple hats across Platform, Content, Gameplay, UI teams; acted as a **technical bridge** to communicate complex engine constraints to non-technical stakeholders.
- Helped with technical strategy and execution of a major **engine transition from Unity to Unreal**, architecting core subsystems and ensuring feature parity while introducing new low-level capabilities.
- Designed and implemented **server-authoritative networking** architecture, solving complex replication challenges for a massive-scale live-service social ecosystem ('Nexus').
- Modified **Unreal Engine source** and developed custom C++ plugins to extend engine functionality, creating bespoke tools that empowered artists to iterate independently.
- Defined and enforced **performance budgets**, utilizing **Unreal Insights** and profiling to achieve over 80% optimization in memory and frame time for VR/Mobile platforms.
- Mentored junior and mid-level engineers, fostering an **inclusive and collaborative culture** focused on technical excellence and knowledge sharing.
- Partnered with creative leads to rapid-prototype entirely new gameplay features, prioritizing **playable iteration** over theoretical design to validate core loops early.
- Architected a lightweight concurrency framework (**Multithreading**) to offload expensive operations from the Game Thread, significantly improving stability on target hardware.
- Integrated complex backend services with game client logic, ensuring robust cross-platform data synchronization and session management.

Unity Programmer   Nov 2015 – Feb 2020
Razor Edge Games   *Remote*

- Engineered core gameplay loops including turn-based combat, inventory, and survival mechanics, implementing custom logic for dynamic boss encounters and player tracking.
- Led the integration of open-source hair/fur simulation and holographic UI shaders, troubleshooting complex mesh-to-spline data format conflicts.
- Created custom internal tools that streamlined the content creation pipeline, reducing iteration time for artists and designers on project.
- Collaborated with the Content team to architect and implement the Character Creator UI from concept to completion.

Unity Developer   Jun 2014 – March 2015
Smartcloud Infotech Pvt. Ltd.   *Pune, India*

- Developed and launched multiple interactive commercial applications on mobile platforms using Unity, adhering to strict client requirements and timelines.
- Consulted with clients to define project scope and provided accurate project estimations, along with process improvement suggestions.
- Implemented and iteratively refined UI/UX and gameplay features based on direct client feedback and requirements.

TECHNICAL PROJECTS

UniversalDataSync (NeoDataSync) | C++, Unreal Engine, Multiplayer
- Architected a powerful Unreal Engine plugin to streamline the 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 designed to offload computationally expensive operations from the Game Thread, improving frame stability and performance for CPU-intensive systems.

ElementalArsenal | C++, Unreal Engine, GAS, Editor Tools
- Engineered a modular plugin extending the Gameplay Ability System (GAS) to support data-driven equipment pipelines and automated elemental reactions.
- Built custom Editor Tools to automate asset generation, significantly accelerating the workflow for gameplay designers.

EDUCATION

DePaul University   Online
MS in Computer Game Programming   *Coursework Completed (Capstone Pending)*
CEPT University   India
Master of Business Administration. Information Technology and Project Management   *2014*
Gujarat Technological University   India
Bachelor of Technology in Information Technology   *2012*