

SWAPNEEL BARDHAN

UNREAL ENGINE DEVELOPER • C++ & MULTIPLAYER SPECIALIST

CONTACT

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TECHNICAL SKILLS

Game Engines

- Unreal Engine (Advanced/C++)
- Unity Engine (Prior Mastery)

Multiplayer Systems

- Network Replication & RPCs
- Client-Side Prediction
- Replicated Locomotion
- Dedicated Server Hosting

Programming Workflow

- C++/Blueprint Hybrid Design
- C++ Native Core Mechanics
- BP Fast Prototyping
- Memory Management (Smart Ptrs)

Specialized Domains

- Custom Editor Utility Tools
- Gameplay Performance Profiling
- Advanced Locomotion Setup
- UMG UI/UX Programming
- Chaos Physics & HLSL

LANGUAGES

English

Professional Working Proficiency

Bengali

Native / Bilingual

Hindi

Conversational Proficiency

PROFESSIONAL SUMMARY

Results-driven **Unreal Engine Developer** specializing in high-performance C++ core systems and clean Blueprint architectures. Expert in utilizing a **hybrid C++/Blueprint workflow**—architecting memory-safe, performance-critical gameplay and replication systems natively in C++ while leveraging Blueprints for rapid feature prototyping and UI orchestration. Proficient in multiplayer network replication, advanced locomotion setups, editor tool development, and gameplay frame-time optimization.

UNREAL ENGINE PORTFOLIO

Multiplayer Survival Game (From Scratch)

2025 – 2026

Unreal Engine, C++, Blueprints, Network Replication, UMG

- Engineered a network-replicated survival game with dedicated server authoritative building, crafting, and synchronized inventory structures.
- Developed modular, responsive **UI/UX interfaces using UMG** driven by solid C++ base classes for data safety and presentation separation.
- Managed the entire deployment cycle: profiled network traffic, optimized server tick rates, cooked server builds, and packaged release builds.

Large-Scale C++ Battle Royale Prototype

2025

Unreal Engine C++, Native Blueprint Interfaces, Unreal Insights

- Implemented an **advanced replicated locomotion system** (fluid vaulting, sliding, and climbing) leveraging server-predicted movement.
- Conducted gameplay and memory profiling using **Unreal Insights** to track memory allocation and drastically reduce garbage collection spikes during dense fire-fights.
- Programmed lag-compensated gunplay, custom projectile physics, and robust inventory handling in performance-optimized native C++.

Unreal Engine Launcher & Custom Developer Tools

2024 – 2025

C# Desktop Tool, Editor Utility Widgets, Unreal Build Tool Integration

- Authored custom **Editor Utility Widgets (Blutilities)** inside Unreal to automate gameplay design layout setups and debug state checks.
- Developed a standalone desktop launcher tool to manage modular engine source builds, clean dirty binaries, and speed up target compilation pipelines.

Co-op Pirate & Zombie Shooter Prototypes

2024

Unreal Engine, Chaos Physics, NavMesh AI, Prototype Workflows

- Designed a high-intensity zombie horde co-op map utilizing optimized behavior trees and specialized NavMesh movement.
- Leveraged **rapid Blueprint prototyping** to rapidly implement and test multiple core features (buoyancy components, cannon reloading, weapon feedback loops) before translating bottlenecks into stable C++ classes.

Arcade Physics & Vehicle Prototypes

2023 – 2024

Unreal Engine, Blueprint, Chaos Physics

- Crafted customized vehicle systems utilizing Chaos Physics setups to mimic complex suspension forces and tire slip states.
- Designed supporting debugging HUD overlays to monitor physics behavior metrics in real-time.