

ABHINAV MOORTHAKATTIL

Gameplay Programmer | Unreal Engine C++ Developer

Kerala, India

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[GitHub](#) • [LinkedIn](#) • [Portfolio](#)

PROFESSIONAL SUMMARY

Gameplay Programmer with **5+ years of software engineering experience** and **4+ years of professional Unreal Engine development**. Specialized in **modern C++**, **gameplay systems**, **gameplay architecture**, and **data-driven frameworks** for commercial **PC and VR** titles. Experienced in **multiplayer networking**, **editor tool development**, **performance optimization**, and collaborating with multidisciplinary teams to deliver **scalable, maintainable** gameplay systems.

CORE TECHNICAL EXPERTISE

Gameplay Engineering

Unreal Engine 5 • Modern C++ • Gameplay Systems • Gameplay Architecture • Gameplay Framework • Gameplay Ability System (GAS) • Gameplay Tags • Blueprint Scripting • Data Assets • Data-Driven Design

Multiplayer & AI

Multiplayer Networking • Replication • Epic Online Services (EOS) • AWS GameLift • AWS FlexMatch • Artificial Intelligence (AI) • Behavior Trees • State Trees

Engine & Tools

Editor Tool Development • Python Automation • Developer Tooling • Rendering Optimization • Performance Profiling • Animation Blueprints • UMG • Niagara • FMOD • Direct3D

Software Engineering

Python • C# • TypeScript • JavaScript • Node.js • MongoDB • REST APIs • GraphQL • Docker • AWS

Development Tools

Git • Perforce • GitHub • GitLab • Jira • Postman • Swagger • Agile / Scrum

PROFESSIONAL EXPERIENCE

Virtual Alchemy

Unreal Engine Programmer

Warsaw, Poland (Remote) | September 2025 – Present

Band of Crusaders (Strategy RPG | Unreal Engine 5)

Contribute to the development of **Band of Crusaders**, an Unreal Engine 5 strategy RPG, by designing gameplay systems, engine features, editor tooling, and performance improvements while collaborating closely with designers, programmers, technical artists, and audio engineers.

- Designed and implemented gameplay systems using Unreal Engine 5, modern C++, and Blueprint, focusing on scalable, maintainable, and data-driven architecture.
- Developed reusable Unreal Editor and developer tools using C++ and Python to improve content creation workflows and programmer productivity.
- Integrated AMD FidelityFX Super Resolution (FSR) and Intel XeSS upscaling technologies to improve rendering performance across a wide range of hardware configurations.
- Collaborated with audio engineers to investigate and resolve Unreal Engine and FMOD integration issues, improving engine stability and audio workflow reliability.
- Built and refactored gameplay systems to improve modularity, maintainability, and long-term scalability while supporting rapid iteration by designers.
- Contributed to gameplay framework development through reusable C++ components, gameplay architecture improvements, and editor-focused utilities.
- Worked closely with multidisciplinary teams to transform gameplay requirements into robust technical implementations while maintaining code quality and performance standards.

Technologies: Unreal Engine 5 • C++ • Blueprint • Python • FMOD • AMD FSR • Intel XeSS • Git • Perforce

Tandemloop Technologies

SDE - Team Lead (*Official Title*)

Bengaluru, India | September 2020 – April 2025

Project: Quantumloop (*Multiplayer Tactical FPS*)

Gameplay Programmer

July 2023 – December 2024

Developed gameplay systems for a competitive multiplayer FPS built with Unreal Engine, contributing to gameplay architecture, multiplayer networking, online services integration, and gameplay framework development.

- Architected modular gameplay systems using Unreal Engine C++ and Blueprints, enabling scalable gameplay feature development.
- Designed a reusable weapon framework supporting multiple weapon types, recoil systems, ammunition handling, visual effects, and gameplay extensibility.
- Developed modular GameMode architecture supporting Plant the Bomb, Team Deathmatch, Free-for-All, and Zone Control while minimizing duplicated gameplay logic.
- Optimized multiplayer replication by moving non-authoritative visual, UI, and audio functionality to clients while reducing replicated network traffic through vector quantization techniques.
- Migrated core gameplay systems from Unreal Engine 4.26 to Unreal Engine 5.3, improving maintainability, engine compatibility, and project scalability.
- Integrated Epic Online Services using the Redpoint EOS SDK, exposing Party, Lobby, and Presence systems to gameplay and UI through reusable Unreal subsystems.
- Implemented backend matchmaking integration using AWS GameLift, FlexMatch, Node.js, MongoDB, and JWT authentication for region-aware multiplayer matchmaking.
- Participated in gameplay balancing, internal playtests, and public demonstrations, incorporating player feedback into gameplay improvements.

Technologies: Unreal Engine 5 • Unreal Engine 4.26 • C++ • Blueprint • EOS • Redpoint SDK • AWS GameLift • AWS FlexMatch • MongoDB • Node.js

Project: VR Applications

Unreal Engine Developer

January 2025 – April 2025

Developed and optimized commercial VR applications targeting Meta Quest Pro and Meta Quest 3 using Unreal Engine and Unity.

- Developed immersive VR experiences using Unreal Engine and Unity for Meta Quest platforms.
- Designed intuitive in-headset user interfaces and interaction systems optimized for VR usability.
- Improved rendering performance through shader optimization, Level of Detail (LOD) improvements, and draw-call reduction.
- Optimized application performance to maintain stable frame rates across standalone VR hardware.

Technologies: Unreal Engine • Unity • C# • Blueprint • OpenXR • Meta Quest SDK

Project: Zone CRM

Senior Full Stack Developer

September 2020 – June 2023

Developed and maintained enterprise CRM applications supporting small and medium-sized businesses while contributing to backend architecture, APIs, and cloud infrastructure.

- Developed scalable web applications using Angular, Node.js, MongoDB, Docker, and AWS.
- Designed backend services, REST APIs, and real-time communication systems supporting business-critical workflows.

Technologies: Angular • Node.js • MongoDB • Docker • AWS • Socket.IO • GraphQL

Cognizant Technology Solutions

Java Programmer

Coimbatore, India | February 2018 – May 2019

Fanatics

Provided application support and issue resolution for a large-scale US e-commerce data platform.

- Investigated and resolved production issues across scheduled data processing and reporting pipelines.
- Supported business-critical data operations using Java, SQL, AWS, and Stonebranch automation tools.

Technologies: Java • SQL • AWS S3 • Stonebranch • Tableau • Scala

Career Break

May 2025 – September 2025

Took a planned career break to provide full-time caregiving and family support during a medical situation.

EDUCATION

Kannur University

Bachelor of Science in Computer Science

Kerala, India | 2013 - 2016

CERTIFICATIONS

Certified Full Stack Developer | *ICT Academy of Kerala (2019)*

Certified Blockchain Developer | *Kerala Blockchain Academy (2020)*

LANGUAGES

English • Malayalam (Native)