

ROHIT KUMAR

Unity Developer | Game Developer | AR/VR/XR

+91 893-084-5100 | rohitbhukal01@gmail.com | Panipat, Haryana, India

github.com/rohit892004 | linkedin.com/in/rohitkumar0809

Portfolio: drive.google.com/drive/folders/1YJqfkSy5HJqaCzkmmrwIA_R9oLiQB9e1

PROFESSIONAL SUMMARY

Unity Developer (C#) with experience building gameplay systems, interactive 3D prototypes, and real-time simulations. Proven ability to design core gameplay loops, player movement, physics integration, and UI systems from first build to tested deliverable. Experienced in rapid iteration cycles, performance optimization (60+ FPS on mobile and VR), and collaborating with cross-functional teams in agile environments. Adept at debugging, scoping features without over-engineering, and tuning game feel based on play test feedback.

TECHNICAL SKILLS

- Game Engine & Programming:** Unity 2D/3D/XR (C#), Unreal Engine (Basics), Python, C/C++
- Gameplay Systems:** Core Gameplay Loops, Player Movement, Physics Integration, Animation Systems, FSM-Based AI, Prefabs, Game Mechanics, Rapid Prototyping
- UI/UX Systems:** Unity UI, TextMeshPro, First-Time User Experience (FTUE) Design, Responsive UI Scaling, UI Animation, Cross-Platform UI, Player Instrumentation
- Performance Optimization:** Unity Profiler, GC Optimization, Draw Call Reduction, GPU Instancing, IL2CPP, Mobile Optimization, 60+ FPS on Snapdragon 4xx / Mali GPU
- AR/VR/XR:** AR Foundation, Vuforia, OpenXR, Oculus SDK, ARCore, Meta Quest, Mobile AR/VR Optimization
- Computer Vision:** OpenCV, Real-Time Object Detection & Tracking, Python-Unity Integration
- 3D & Tools:** Blender (Modeling, UV Mapping, Rigging, Animation), Figma, Git/GitHub, Visual Studio, Unity Profiler

PROFESSIONAL EXPERIENCE

Software Engineer Intern | Dec 2025 – Present

Panipat Institute of Engineering and Technology | On-site, Panipat

- Built and debugged application features across multiple platforms, focusing on code quality, maintainability, and performance in a production codebase.
- Collaborated with senior engineers on feature implementation and code optimization within an Agile/Scrum sprint environment.
- Participated in code reviews, technical documentation, and sprint planning to ensure timely delivery of project milestones.

Digital Twin Development Intern | Dec 2025 – Mar 2026

IAVerse: AR, VR, AI & Digital Solutions | Hybrid

- Developed AR/VR applications in Unity 3D (C#) using AR Foundation, OpenXR, and Oculus SDK; achieved stable 60+ FPS on Meta Quest and Android targets.
- Optimized 3D scenes and assets for real-time performance using Unity Profiler, draw call reduction, GPU instancing, and memory management best practices.
- Deployed and validated builds on Android and Meta Quest; handled device-specific UI scaling, input systems, and cross-platform compatibility.
- Researched emerging AR/VR frameworks and contributed proof-of-concept prototypes to inform the product roadmap.

Unity Developer Intern | Oct 2025 – Nov 2025

EdutapXR Technologies Pvt. Ltd. | Remote

- Designed and shipped 15+ interactive 3D/AR experiences in Unity, iterating rapidly from initial builds to final tested deliverables based on stakeholder feedback.
- Implemented responsive UI/UX flows and FTUE sequences to guide new users through interactive learning experiences across mobile and tablet devices.
- Created optimized 3D assets in Blender and integrated them into Unity with performance-conscious LOD, texture atlasing, and animation systems.

AR/VR Designer Intern | May 2025 – Oct 2025

Tetrahedron Manufacturing Services Pvt. Ltd. | Hybrid

- Delivered interactive 3D walkthroughs and real-time visualizations for 10+ residential and commercial projects using Unity and Blender.

- Iterated on designs based on client and stakeholder feedback, adjusting layouts, materials, and camera paths to match evolving project requirements.
- Coordinated with contractors to ensure assets met technical and timeline constraints for each project delivery.

KEY PROJECTS

Gameplay Prototype Suite | Unity 2D/3D/XR | C#

- **Plane Shooter (2D):** Designed the full core gameplay loop — player movement, projectile mechanics, FSM-based enemy AI, scoring system, and game-state management (main menu, game over, restart). Iterated on game feel through repeated playtesting and variable tuning.
- **3D First-Person Horror Shooter:** Built first-person controller, atmospheric lighting, FSM enemy AI (patrol / chase / attack states), dynamic audio triggers, and responsive HUD. Tuned player movement speed, FOV, and sensitivity based on playtest sessions.
- **DinoVerse XR:** Implemented XR interaction mechanics, gesture-based controls, and cross-platform optimization achieving stable frame rates on target headsets.
- **Bicycle Simulator:** Built physics-based vehicle controller with realistic handling, surface-response tuning, and checkpoint system.

Real Ball Detection & Position Tracking | Unity 3D | C# | OpenCV

- Developing a real-time computer vision system that detects a physical ball via camera feed using OpenCV and maps its live position into Unity's 3D coordinate space.
- Implementing frame-by-frame ball detection (color/contour-based) and integrating tracked coordinates with Unity's transform system for real-time in-engine object tracking.
- Building this as an AR/interactive input pipeline connecting real-world motion to virtual gameplay/simulation elements.

AR + AI Markerless Engine Assistant | Unity 3D | AR Foundation | RAG-Based AI

- Engineered a production-ready markerless AR application using AR Foundation plane detection for real-time 3D model placement on any surface without fiducial markers.
- Integrated a RAG-based AI assistant backend: users ask natural-language questions about 3D objects and receive context-aware responses via LLM and vector database pipeline.
- Built intuitive gesture controls (3D rotation and scaling), a clean responsive UI, and accessibility-focused design for diverse mobile users.

Welding Simulation Industrial Training Platform | Unity 3D | Physics | Particle Systems | VR

- Developed a physics-based welding simulator with procedural heat visualization, material deformation feedback, and real-time performance metrics tracking torch angle, travel speed, and bead quality.
- Achieved 60+ FPS on low-end Snapdragon 4xx devices through advanced particle culling, GPU instancing, and draw call reduction — enabling deployment in budget-constrained vocational schools.

VR Tours: Ram Mandir & Taj Mahal | Unity 3D | Photogrammetry | Blender

- Built immersive 360-degree VR tours integrating photogrammetry data with Unity VR framework; implemented interactive waypoint navigation and achieved 60+ FPS stability across Snapdragon 4xx/Mali GPU devices.

Medical Surgical Simulations | Unity 2022 LTS | Blender | Interactive Training

- Developed surgical training simulations for liver, heart, and kidney procedures using anatomically accurate 3D models, state-driven UI flows, gesture controls, performance metrics, and learner evaluation systems.

CMR Hot Refinery Operator Training Simulation | Unity 3D | Real-Time Data Visualization

- Built a comprehensive refinery operator training simulator with scale-accurate 3D equipment models, live sensor dashboards (temperature, pressure, flow rate), alarm systems, and pre-programmed emergency scenario responses for regulatory compliance training.

EDUCATION

Bachelor of Technology — Computer Science and Engineering (AI & ML) | Jul 2022 – Jul 2026

Panipat Institute of Engineering and Technology (PIET)

LANGUAGES

English | Hindi