

Isaac Nikouei

Senior Technical Gameplay Programmer | AI, Combat, Tools | Unreal Engine, Unity, C++
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Summary

Senior Technical Gameplay Programmer with 12+ years of experience building gameplay systems, AI architectures, tools, and engine-level technologies across Unreal Engine, Unity, and proprietary C++ engines. Strong background in FPS/action gameplay, enemy and NPC AI, designer-facing tools, performance optimization, and cross-discipline feature development. Experienced leading small programming teams, improving production workflows, and developing scalable gameplay, animation, and engine/editor systems. Currently building a Vulkan-based game engine to deepen low-level rendering and engine architecture expertise.

Skills

- **Core:** C++, C#, Unreal Engine, Unity, Gameplay Systems, AI, Combat, Tools.
- **Secondary:** Vulkan, HLSL/GLSL, Qt, Dear ImGui, Nvidia PhysX, Blender Python.
- **Workflow:** Git, Plastic SCM, Agile/Scrum, profiling, optimization.

Personal Project

Helix Game Engine | Ongoing

- Building a custom C++ game engine using Vulkan 1.4, Dear ImGui, CoreCLR, and Box2D.
- Implementing modern rendering architecture features including indirect rendering, buffer device address, and bindless resource indexing.
- Developing engine/editor foundations for gameplay scripting, rendering workflows, and runtime experimentation.

Professional Experience

Lead Game Programmer | Polydin Studio | 06/2023 to Current

Fractured Tenement (Unreal Engine FPS horror title - in development)

- Led a team of 3 programmers through production, providing technical direction, code reviews, task breakdowns, and feature integration support.
- Owned core Unreal C++ FPS combat framework, including weapon state machines, reload/fire flows, hit validation, interaction traces, animation hooks, and designer-tunable data assets used across production encounters.
- Built StateTree/Utility AI architecture for enemy and NPC behaviors, enabling designers to tune decision-making, combat reactions, patrol/combat states, and encounter variation without programmer support.
- Partnered with Design, Art, and Animation teams to scope, prioritize, and integrate gameplay features.
- Managed Plastic SCM branching workflows and developed custom hooks to sync smart-lock behavior across servers, reducing collaboration overhead by 30%.

Senior Game Programmer | Byteager Studio | 08/2018 to 06/2023

Project D.E.A.R: The Merge (demo version released on App Store)

- Implemented hack-and-slash character gameplay, including sword and magic combat systems.
- Built 15 distinct enemy AI behaviors using Behavior Trees and custom designer-facing editor tools.
- Developed two AR boss fight experiences using Unity AR Foundation, expanding combat interaction and player immersion.

- Architected quest and dialogue systems that enabled designers to author and integrate narrative content independently.
- Led technical architecture improvements, refactoring core systems to improve code structure, maintainability, and production velocity.
- Optimized project performance, achieving a stable 60 FPS on iPhone X through pooling and memory cache optimization.
- Achieved a 15% reduction in memory usage, enhancing overall application performance using profiling tools.
- Created custom Blender extensions in Python, allowing artists to manipulate and embed additional data into meshes for advanced VFX workflows.

Game Programmer | Hami System Sharif | 08/2017 to 08/2018

Kashteh (released on local store - Cafe Bazaar)

- Implemented a 3D soccer free-kick mechanic for mobile devices, allowing players to control the shooting trajectory through screen swiping.
- Built Unity editor tools for configuring free-kick scenarios and uploading them directly to the server.
- Implemented secure authentication and session management through REST APIs.
- Integrated Cafe Bazaar and Char-Khooneh SDKs for secure Android in-app purchases.

Hami Dream (released on App Store)

- Developed a mobile VR Zen Garden experience using Google Cardboard.
- Improved runtime performance from 40 FPS to 60 FPS on iPhone X by replacing standard PBR shaders with custom shaders.

Engine Programmer | FIP-CO | 01/2015 to 08/2017

G-Engine (Proprietary Engine)

- Integrated Nvidia PhysX into the engine core, enabling rigid-body simulation and physics-driven gameplay features.
- Contributed to Mono/C# scripting support, enabling gameplay logic to be authored and iterated without rebuilding engine code.
- Developed Qt-based editor tools, including asset importers, material editors, and component editors.
- Built a racing game prototype to validate gameplay systems and identify performance issues.

Game Programmer | Rainsoft Studio | 12/2013 to 01/2015

Nabard-e Abhaye Azad (released on local store - Cafe Bazaar)

- Designed and developed naval ship movement and cannon combat mechanics, enabling players to control the movement and firing of their ship's cannons.
- Implemented enemy ship AI using State Machine, enabling responsive behavior during gameplay and interactions with other enemy entities.

Education

Bachelor of Science

- Computer Engineering Studies | Jaber-Ben-Haiyan Institute of Higher Education | 2013

Associate of Science

- Electronics Engineering | Rajae Teacher Training University | 2010