Nianzhi Li | 437-663-4348 | linianzhi06@gmail.com | Website

Professional Summary:

Gameplay and AI Programmer with 3+ years of experience, specializing in character systems and combat mechanics. Strong foundation in C++ and 3D mathematics, with expertise in implementing behavior trees, animation state machines, and physics-based interactions. Demonstrated success in shipping Dungeon CEO on Steam, where I architected scalable AI systems and turn-based combat mechanics. Experience in multi-threaded optimization and cross-discipline collaboration with artists and designers. Passionate about creating sophisticated character AI and seamless gameplay experiences, with particular interest in Rockstar's industry-leading character interaction systems.

Work Experience:

Research Assistant
Center of Mobile Innovation, Sheridan College
Oct 2023 – Jan 2024

- Developed real-time 3D human pose estimation system on mobile platforms, implementing computer vision algorithms and optimizing 3D rendering performance
- Researched and integrated third-party frameworks for real-time graphics processing and motion tracking
- Collaborated with industry partner to design and implement software architecture meeting production requirements
- Estimated technical tasks and delivered solutions through agile development cycles

Education:

Internet of Things and Machine Intelligence *Sheridan College 2024*

- Developed advanced skills in data-collection, communication networks, and AI-driven automation.

Advanced Game Programming *Sheridan College 2023*

- Focused on advanced game development techniques, system architecture, and project management.

Bachelor's degree in digital media engineering *Beijing Film Academy 2019*

- Advanced coursework in C++, Computer Graphics, Linear Algebra, and Unreal Engine, with emphasis on rendering systems and game physics

Notable Projects:

Lead Gameplay Developer
Dungeon CEO (Turn-Based Card Game)

- Led gameplay mechanics and system development using Unity, optimizing performance for seamless user experience.
- Collaborated with designers and artists to ensure cohesive and engaging gameplay interactions.
- Successfully launched on Steam, receiving positive player feedback on mechanics and gameplay balance.

2D Game Engine Developer

- Built a custom 2D game engine from scratch, gaining deep understanding of game physics, rendering pipelines, and networking.
- Implemented robust and maintainable C++ code, demonstrating proficiency in large-scale C++ project management.

Gameplay Programmer

Lucid Dream (3D Puzzle Game)

- Developed complex gameplay mechanics and interactions for an immersive 3D experience using Unity.
- Collaborated with a cross-functional team during a 20-day game jam, optimizing performance and enhancing user engagement.

Technical Skills：

AI & Gameplay Systems:

- Character AI: Finite State Machines, Behavior Trees, Steering Behaviors
- Animation Systems: Animation State Machines, Blend Trees
- Combat Systems: Turn-based mechanics, Status Effect Framework, Component-based Design
- Physics Integration: Collision Detection, Character Controllers

Graphics & Mathematics:

- 3D Mathematics: Linear Algebra, Quaternions, Transformation Matrices
- Rendering: HLSL Shader Development, Graphics Pipeline
- Optimization: Multi-threading, LOD Systems, Frustum Culling
- Technical Art Pipeline Integration

Collaboration & Process:

- Cross-discipline collaboration with artists, designers, and engineers
- Performance optimization and debugging
- Agile development and feature iteration
- Strong attention to detail in gameplay mechanics

Awards and Honors:

Bronze Medal *FA*

- Recognized for innovative design and technical proficiency.

Honorable Mention *ICAD*

- Awarded for excellence in contemporary art and design.

Outstanding Volunteer ISFVF

- Honored for exceptional volunteer service and leadership.