

Suhwan Kim

+8 years C++ programming
Experience, proficient in Unity, Unreal Engine, Godot Engine, Vulkan, DirectX12, OpenGL, and A* pathfinding (AI).
Experienced multiple academic team projects, Seamless communicator, facilitating effective problem resolution.
Committed to continuous learning and skill expansion.
A person who doesn't give up easily and overcomes challenges.

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📍 Bellevue, WA

in [linkedin.com/in/suhwan-kim](https://www.linkedin.com/in/suhwan-kim)

🌐 [suuuhwankim](https://suuuhwankim.com)

Skills

PROGRAMMING LANGUAGES

C
C++
C#
Python
JavaScript
ARM, x86 assembly

TOOLS

Git
SVN
CMake
gcc/g++
clang
Visual Studio
Visual Code
Rider
Maya
Substance Painter
Render Doc
Jenkins

FRAMEWORK

Unity
Godot Engine
Unreal Engine
Vulkan
DirectX11
DirectX12
Google Test
SDL
ImGui
D3.js

OTHER SKILLS

Linux
HLSL/GLSL

Programming Paradigm

OOP
TTD
Functional Programming
Design Pattern

Projects

Parkour

Dec. 2023 to Current

3D Unreal third-person multiplayer tech demo (Gameplay Programmer)

- Created a custom character movement component that inherits from the character movement component
- Implemented logics and animations for character's wall climbing and mantle movements in custom character movement component in C++ based on design documents.
- Added network multiplayer system that can handle custom movements and animations using a server-client model

RoyalStraightFlush

Sept. 2021 to Apr. 2022

3D Unity casual FPS shooting game (AI / Gameplay Programmer)

- Engineered the player movement and dash system, optimizing responsiveness and fluidity in character controls.
- Collaborated closely with the technical director to design and implement the Club Enemy (melee enemy bots) using NavMesh for navigation and engaging combat interactions.
- Partnered with the technical director to enhance the UI/UX elements, ensuring intuitive navigation and visual clarity for players.
- Designed and developed Stage 3 (SnowField), featuring blizzard skills and challenging environmental dynamics, and programming Spade King and Queen Enemy as semi-boss characters with unique AI behaviors and combat mechanics, enhancing player engagement and immersion.
- Worked in a team of six members to brainstorm ideas, troubleshoot issues, and iterate on gameplay mechanics to achieve a cohesive and engaging player experience.

Vulkan Real-Time Raytracing

May 2022 to Sept. 2022

- Organized Framework to improve performance and maintainability with Vulkan API.
- Implemented full path tracing and explicit light path for accurate and realistic rendering
- Implemented Denoising to reduce noise and improve render quality.
- Implemented geometry OBJ file loader and PBR for displaying various material

DirectX12 / OpenGL Rendering

Sept. 2021 to Dec. 2022

- Enhanced rendering capabilities using DirectX12 API / OpenGL by implementing a structured framework.
- Implemented IBL and PBR based on Brdf for realistic materials, including refraction and reflection.
- Implemented lighting effects(spot, directional, point), and incorporated Shadow, cube Mapping.
- Implemented Phong shading, Phong lighting, and blin shading for different light rendering

A* pathfinding

Sept. 2022 to Dec. 2022

- A* algorithm Combining Dijkstra and Greedy Best-First method based on Given cost and Heuristic cost using Euclidean, Octile, Chebyshev, and Manhattan methods.
- Implemented Rubberband final path and Smooth using a Catmull-Rom spline.
- Implemented AI agent's openness, visibility, search, propagation + normalized occupancy map.

Employment

RPGResearch (Volunteering)

Spokane, WA

Game Developer

Sept. 2023 to Current

Brain-computer interface Role-Playing Games (RPGs) use brain-computer interface technology to aid individuals suffering from Locked-in Syndrome (LIS) and Complete Locked-in State (CLIS) using the Godot engine.

- Actively engage in live development meetings, providing progress updates, and collaboratively strategizing project objectives.
- Working on character save / load system to process data to csv files.

Education

DigiPen Institute of Technology

Apr. 2023

Bachelor's of Computer Science in Real-Time Interactive Simulation |