Donghyun Kang
Graphics Programmer

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Education

DigiPen Institute of Technology / Redmond, WA   Expected Apr 2026
Bachelor of Science in Computer Science in Real-Time Interactive Simulation
- Minor: Mathematics
- Relevant Courses: Advanced Computer Graphics I, Advanced C/C++, Linear Algebra and Geometry, Curves and Surfaces

Technical Skills:

Languages:	C, C++, C#, Blueprint, GLSL
API & Libraries:	OpenGL, SDL2, SFML
Engines:	Unreal Engine 5, Unity, Custom 2D Engine
Tools:	Git, GitHub, Perforce, CMake, Niagara, Unity Timeline, DOTween, Maya, Substance Painter
OS:	Windows, Linux

Experience

Student Volunteer   Aug 2025
ACM SIGGRAPH 2025 / Vancouver, BC
- Volunteered at SIGGRAPH 2025 as exhibition guide and door monitor.
- Experienced emerging computer graphics technologies and industry developments.

The Winter School Program in Video Game Development   Jan 2024
EPITECH - European Institute of Technology / Paris, France
Unity, C#
- Implemented UI from scratch in "If I Were the King", serving as the dedicated UI/UX programmer, on a 6-member team.
- Wrote C# scripts and used UGUI to implement a tutorial sequence, settings panels, and HUDs with dynamic resource gauges.
- Utilized DOTween library and Unity's Timeline to make procedural UI animations and narrative cutscenes with visual effects.
- Earned a formal certification for successfully completing the program and delivering the final team project over a 3-week sprint.

Team Based Projects:

Graphics Programmer   Fall 2024 – Spring 2025
The Children Are Sleeping | Unreal Engine 5, Niagara, Blueprint
- Engineered a dynamic post-processing system to visually represent player sanity with vignette and grayscale effects.
- Authored key gameplay VFX in Niagara based on artist's concept art, including item glows and monster threat auras.
- Profiled the rendering pipeline with Unreal Insights to identify and resolve performance bottlenecks.
- Implemented strategic lighting optimizations, such as using static shadows in Lumen, to boost framerates by over 30 FPS.
- Developed the technical art pipeline with parameter-driven materials and VFX documentation to accelerate the team's workflow.

Tool Developer   Spring 2024
Kingdom of Boardgames | C++, OpenGL, GLSL
- Architected a centralized shader manager using a custom GLShaderArray to load and apply all shaders instantly.
- Authored four GLSL shaders that add dynamic fog, rain, lightning, and flowing waters, boosting overall visual immersion.
- Enabled shader animations by developing a custom stopwatch component to pass the engine's delta time to fragment shaders.
- Provided an accessible shader pipeline that allowed team members to apply visual effects using a simple Enum for shader type.

Engine Programmer   Fall 2023
Palagang | C++, OpenGL, SDL2, SFML
- Integrated foundational libraries for core game engine functions: SDL2 (Window), OpenGL (Graphics), SFML (Audio).
- Diagnosed and resolved critical engine-level bugs, caused by dangling pointers and an input processing error.
- Engineered a font rendering system that parsed and drew characters from a single sprite sheet.
- Developed a trigger system for complex AI state changes and a Verlet-based physics engine with AABB collision detection.