# NOYA CAI

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## OBJECTIVE

Technical artist and Gameplay/Graphics programmer. Available from May 2025. Open to relocate.

## EDUCATION

**Rochester Institute of Technology (RIT)** *Aug/2023 - Present*
Master of Science in Game Design and Development
Course Taken: Computer Animation, Game Graphics Programming, Global Illumination

**University of Science and Technology of China (USTC)** *Sep/2019 - June/2023*
Bachelor of Engineering in Computer Science
Course Taken: Computational Methods, Equations of Mathematical Physics, Data Structure and Algorithm

## SKILLS

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|---|---|
| **Programming** | Proficient in C, C++, C#, GLSL, HLSL, Python, Swift, Java, HTML |
| **Library** | OpenCV, OpenGL, OpenXR, DirectX11, CUDA, ARKit, RealityKit |
| **Software** | Visual Studio Code, Visual Studio, Xcode, Unity, Unreal Engine, Trello, Figma |

## WORK EXPERIENCE

**Magic Spell Studio, Augmented Reality Software Engineer** *Jan/2024-Present*
Keywords: VR/AR, Unity, C#, SwiftUI, ARKit, RealityKit, ios, Figma, Trello
- Developed an AR windowed application using Unity for Apple Vision Pro to be used in medical fields.
- Worked with designers to implement complex UI/UX system to meet client's needs.
- Worked with data engineers to migrate data from FHIR server to an AR application.
- Using SwiftUI, ARKit, Compositor Services, and RealityKit to develop an AR immersive application for Apple Vision Pro to be used in medical research.
- Separated the main thread of the program into multiple threads and improved the overall speed by 30%.

## PROJECTS

**Duolatera (Capstone VR online co-op puzzle game)** *Aug/2024-Present*
as Technical Artist, and Graphics/Gameplay Programmer, using Unreal Engine 5, C++, and HLSL
- Designed and implemented a cel-shading pipeline for forward rendering which is otherwise unachievable through regular methods commonly used in deferred rendering
- Using both materials and Niagara systems, created procedurally generated VFX for portals, lasers, shoot-able items, interact-able items as well as several other in-game props.
- Implemented in-game dialogue system, voice chat system, load and save game system, and several other gameplay puzzle mechanics.

**GPU-Based Global Illumination Renderer and Ocean Simulator** *Jan/2024-May/2024*
as Graphics Programmer, using Linear Algebra, C++, OpenGL, GLSL
- Implemented a path tracer that allows user-defined primitive shapes including triangles and spheres.
- Based on this path tracer, implemented a realistic Ocean Simulation shader with Gerstner wave, Caustics, and click-prompted ripples.

**VR-Live** VR/Graphics Programmer, using Unity, GitHub, Sony Mocopi *Aug/2023-Dec/2023*
- Built and integrated a framework that works with Sony Mocopi to use as Motion Capture tool in VR-Live performances. It allows multiple performers and 20+ audiences to connect over the network at the same time.

**Warped** as Gameplay Programmer and Technical Artist, using Unity, GitHub, Agile *Aug/2023-Dec/2023*
- Implemented a complex rotation system as the main mechanism of a top-down isometric puzzle game.
- Designed and implemented tools using both Bezier Curve and Catmull-Rom spline for artists to create cut-scene animation.