Matin Esmaeili

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A Technical Artist & Gameplay System Engineer with a special expertise in simulations base on mathematical equations and tool engineering for digital artists. I am also strongly interested in Rendering Engineering which I am currently perfecting through several original projects.

Education

MS Digital Media Arts & Engineering	Louisiana State University	May 2025
Bachelor of Science in Software Engineering	Shamsipour Technical and Vocational College	2022

Positions

Louisiana State University – Graduate research assistant at DMAE LSU	2023 - Current
Louisiana State University – Internship in XR Studio – VR, VP, Digital twinning	2024 - Current

Achievements

Winner of Best Programming Prize – *LSU Global Game Jam 2025*

Hall of Mirrors – *Presented at ASTR 2024 Conference*

Hall of Mirrors – *Applied for Performance Studies International (PSi) 2025*

Phantom of Utopia – *Paper Accepted at NIME 2024*

Latest Projects

LSU Transmission Electron Microscope Lab Digital Twin
(Link to website)

As technical artist and tool developer, worked on a real-time VR simulation for LSU's cutting-edge Transmission Electron Microscope.

- Created a system that simulates the path of an electron beam inside the microscope, dynamically demonstrating the effect of knobs and buttons in real time.

Technologies Used: Unreal Engine, C++, VR
Duration: Since 2024

LSU Emergency Medicine Middle Line Procedure
(Link to website)

As a project manager and technical developer, made a VR game designed for LSU Emergency Medicine Training to help new interns master their hand movement during the procedure.

- Designed and implemented a hand movement guidance system using a custom collision detection algorithm, leveraging mathematics for enhanced precision and adaptability.
- Developed a custom shader utilizing stencil buffers and layered rendering techniques to improve visual clarity and feedback, ensuring a smoother user experience.

Technologies Used: Unity Engine, C#, ShaderLab – HLSL, VR
Duration: Since 2024

Applications

- Unreal engine, Unity 3D, Houdini, Blender, Perforce, Github, Jira, Adobe photoshop, Adobe premiere, Davinci resolve

Programming

- CPP, C#, Unity ShaderLab - HLSL , Unreal Engine Custom Shader - HLSL, OpenGL, GLSL, Ray Tracing - CPP

Math

- Linear algebra, calculus, trigonometry, geometry