Aashiq Shaikh

Graphics Engineer

US Citizen | he/him | Portfolio | LinkedIn | Github

PROFILE

Graphics Engineer with **6 years of Unity experience** and **2 years of real-time graphics experience**. Looking for development positions in computer graphics and rendering.

Name pronounced *AH-shik Shake*.

EXPERIENCE

XR Graphics Graduate Researcher, *Meteor Studio*
Jan 2020 – Aug 2023 | Tempe, AZ
Developed AR/VR graphics techniques for rendering volumetric humans. Also led development for several multidisciplinary projects in collaboration with meteorology, criminology, film, sustainability and theater departments. Managed/mentored 25+ undergraduate students in technical artistry and XR development.

Graphics Programmer, *Dreamscape Immersive*
Aug 2022 – Dec 2022 | Los Angeles, CA
Worked on a production narrative VR experience, developing artist and programmer facing tools to speed up development. I used HLSL and C# in the Unity environment and regularly worked with low-level shader code to develop a ray marcher and landscape mesh editing tools.

Unity Developer, *Emblematic Group*
Feb 2022 – Mar 2023 | Los Angeles, CA
Led the technical development of a prototype historical narrative AR experience. I worked in the Unity engine and use HLSL and C#. Tested new volumetric video technologies and worked with 3D artists to optimize asset rendering.

AR Application Development Intern,
National Center for Atmospheric Research
May 2019 – Aug 2019 | Boulder, CO
Developed a framework to create AR climate-related news articles that could be viewed with a mobile device.

AR/VR Undergraduate Researcher, *Meteor Studio*
Jan 2017 – Dec 2019 | Tempe, AZ
Starting as a freshman, I worked as a student researcher for Meteor Studio. I developed my skills in AR/VR development, project management, and technical art. I published a paper on a programmable location-based AR data visualization framework (see **Publications**).

EDUCATION

Media Arts and Sciences, M.A., *Arizona State University*
2020 – 2021 | Tempe, AZ
GPA: 3.93

Computer Science, B.S., *Arizona State University*
2016 – 2019 | Tempe, AZ
Provost's Award Recipient, Dean's List for 7 consecutive semesters.
GPA: 3.92

REFERENCES

References available upon request.

PROJECTS

Volumetric Video Streaming
Developed a pipeline for capturing, streaming, and rendering volumetric video content in AR/VR. I specialized in the data representation and rendering components of the framework. Used Unity, .NET Core, HLSL, and Azure Kinect.

OpenGL & C++ Graphics Engine,
Kenoma Engine
Real-time forward renderer built with OpenGL and C++. Features real-time gltf rendering with multiple types of lighting (point, directional, spotlight), texture and model loading. Used RenderDoc, GLSL, and CMake.

Illumination Estimation for Photorealistic AR Content on Mobile Devices, *GLEAM*
AR illumination estimation framework to enable realistic lighting and reflections on virtual objects in AR. I streamlined estimation algorithms with compute shaders to take advantage of GPU parallelization. Used Unity, ARKit, ARFoundation, and HLSL.

AR Framework for Map-based Immersive Data Visualization, *Coordinate*
Augmented Reality application that renders large location-based datasets on physical maps, built for ASU executive office as a presentation tool for investor meetings. Created with Unity, Vuforia, and HLSL.

Ray Tracer, *Aeon Tracer*
CPU ray tracer developed with modern C++. Features object rendering with metallic and diffused materials, reflection/refraction, a physically-based camera system and BVH optimizations.

PUBLICATIONS

Adaptive 5G systems for interactive volumetric sports analysis in augmented reality, *ACM MobiSys*
2022
Received Best Demo Award at MobiSys 2022

Characterizing real-time dense point cloud capture and streaming on mobile devices,
ACM HotEdgeVideo @ MobiCom
2021

Coordinate: A Spreadsheet-Programmable Augmented Reality Framework for Immersive Map-Based Visualizations, *IEEE AIVR*
2019

TECHNICAL SKILLS

Graphics Programming *(HLSL, OpenGL, C, C++, RenderDoc, Rasterization, Ray Tracing, Ray Marching, Graphics Pipeline, Linear Algebra)*

AR/VR Development *(Unity, ARKit, Oculus, Azure Kinect, Volumetric Video)*

Media Production *(Blender, Logic Pro, Illustrator, Photoshop, Final Cut Pro)*