NOYA CAI

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SKILLS

Programming	Proficient in C, C++, C#, GLSL, Python, Verilog
Library	OpenCV(Proficient), OpenGL(Proficient), DirectX
Software	Visual Studio Code, Visual Studio, Unity, Unreal Engine, Vivado
Language	English(Proficient), Chinese(Proficient), Cantonese

WORK EXPERIENCE

Augmented Reality Software Engineer

Magic Spell Studio, Rochester Institute of Technology   *02/2024-Present*

• Developing an AR windowed application prototype using Unity and C# for Apple Vision Pro to be used in medical fields.

• Using SwiftUI, ARKit, Compositor Services, and RealityKit to develop an AR immersive application for Apple Vision Pro to be used in medical research.

PROJECTS

Emotion Analysis and Reconstitution Application Based on AI Rendering

Instructor: Rongde Lu. Laboratory of Visual Computing, USTC, Hefei, Anhui   *06/2021-05/2023*

• Built an HCI (Human-Computer Interaction) facial expression renderer based on machine learning and facial expression rendering

• Managed to train DL model with limited facial data and achieved correct recognition of up to six basic facial expressions

• Improved the accuracy of recognition via hyper-parameter searching

• Re-created the original video in animation form, based on the recognized facial expression via blend shapes, to achieve better-implied context reconstruction

GPU-Based Global Illumination Renderer

Instructor: Warren R. Carithers. Rochester Institute of Technology   *01/2024-05/2024*

• Implemented a path tracer using OpenGL that allows user defined primitive shapes including triangles and spheres.

• Implemented multiple tone-reproduction post effects in GLSL which can be selected for different image and screen brightness conditions.

• Based on this renderer, implemented an Ocean Simulator which includes Gerstner wave and Caustic in addition to realistic reflection and transmission.

EDUCATION

University of Science and Technology of China (USTC)   *09/2019 - 06/2023*

Bachelor of Engineering in Computer Science and Technology

Rochester Institute of Technology (RIT)   *08/2023 - Present*

Master of Science in Game Design and Development

AWARDS

• Rochester Institute of Technology Graduate Scholarship   *2023-2025*