

LINGHENG TAO

a.k.a. Tony TAO (He/Him/His)

GRAPHICS PROGRAMMER / TECHNICAL ARTIST

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EDUCATION

Carnegie Mellon University

Bachelor of Arts

Pittsburgh, PA 2017 - 2023

Majored in Architecture

Majored in Computer Science

Minored in Game Design

Carnegie Mellon University

Master of Entertainment Technology

Pittsburgh, PA 2023 - Present

Concentrated in Programming

Concentrated in Technical Art

SKILLS

 C/C++/C#

 Computer Graphics

 Physically Based Rendering

 OpenGL / Metal

 Unity ShaderLab Programming

 Realtime Rendering

 Adobe Photoshop/Illustrator

 Autodesk 3DS Max/Revit/Maya

 Autodesk AutoCAD

 Rhino & Grasshopper

 Unity 3D

 Unreal Engine 5

 Maya

 Amplify Shader Editor

 Unity Shader Graph

 Reality Composer Pro

 RealityKit

 Figma

LANGUAGE

Chinese (Mandarin) Mother-Tongue

English Proficient

Japanese Intermediate

SUMMARY

Embracing challenge from different fields and difficulty. Great at team work and collaboration. Solving problems with flexible skills learned from different majors.

WORK EXPERIENCE

Apple Inc.

Graphics Engineer Internship | 2024.5 - 2024.8

- Implemented 50+ new nodes in ShaderGraph of Reality Composer Pro in RealityKit, including utilities, visual effects and texture space functions.
- Created test shaders, unit tests and materials and example visual effects using the newly implemented nodes and monitored performance on Vision Pro.
- Developed SwiftUI-based macOS applications that facilitate the documentation of the node library.

NetEase (Hangzhou), Inc.

User Experience Engineer | 2021.9 - 2021.12

- Implemented the interaction design files in Cocos Studio and Unity.
- Applied for a patent for an interaction technology that allows the players to drag icons to directly build game objects in simulator games.
- Designed the Standard Operating Procedure for training new employees.
- Compiled the tutorial documents and recorded the course video.

PROJECT EXPERIENCE

Otter Agent for Entertainment Technology Center

Swift Programmer and Technical Artist | 2024.8 - 2024.12

- Joined the team as a SwiftUI programmer and technical artist for making SwiftUI based Metal Shader effects.
- Developed an Apple Watch social game and an iOS fitness app with a team of 6.
- Published the Swift Shader repository on GitHub.

Bidirectional Path Tracer for CMU Physically-Based Rendering

C++ Graphics Programmer | 2024.4 - 2024.5

- Built a bidirectional path-tracing using Dartmouth Introductory Ray Tracer framework.
- Supported multiple importance sampling and different delta light sources.
- Implemented different material models and supported volumetric rendering.

Building Virtual World for Entertainment Technology Center

Technical Artist and Programmer | 2023.9

- Implemented visual special effects for materials to dissolve into each other by creating shaders in Unity with ShaderLab and Amplify Shader Editor.
- Programmed the C# scripts for applying visual special effects corresponding to different XR interactions and scene switching.

Scotty3D Path Tracer for CMU Computer Graphics

C++ Graphics Programmer | 2020.4

- Built a path-tracing renderer using C++ to synthesize higher-quality images.
- Accelerated the ray-scene intersections with Bounding Volume Hierarchy.
- Contained different BSDFs such as diffuse, mirror and glass.