

LINGHENG TAO

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

GRAPHICS ENGINEER

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EDUCATION

Carnegie Mellon University

Bachelor of Arts

Pittsburgh, PA 2017 - 2022

Majored in Architecture

Majored in Computer Science

Minored in Game Design

Carnegie Mellon University

Master of Entertainment Technology

Pittsburgh, PA 2022 - 2024

Concentrated in Computer Graphics

Concentrated in Technical Art

SKILLS

 C/C++/C#

 Computer Graphics

 Physically Based Rendering

 OpenGL / Metal

 HLSL

 Realtime Rendering

 Adobe Photoshop

 Autodesk Maya

 Substance Painter / Designer

 Rhino & Grasshopper

 Unity

 Unreal Engine 5

 Amplify Shader Editor

 Unity Shader Graph

 Reality Composer Pro

 RealityKit

 Figma

LANGUAGE

Chinese (Mandarin) Mother-Tongue

English Proficient

Japanese Intermediate

WORK EXPERIENCE

AlterStaff Inc.

Unity Software Engineer | From 2025.1

- Developed a custom Unity Editor tool to bake lightmaps for procedurally generated maps, significantly streamlining the static lighting workflow.
- Improved rendering performance by profiling with Unity Profiler and Xcode Frame Capture; increased frame rate from 50 FPS to 90 FPS through shader optimization, culling, and draw call batching.
- Authored internal optimization guidelines for Unity and led several technical knowledge-sharing sessions covering HLSL fundamentals, profiling techniques, and rendering optimization strategies.

Apple Inc.

Graphics Engineer Intern | 2024.5 - 2024.8

- Implemented 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 Intern | 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.

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 Game 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 AR/VR interactions and scene switching.