Zilin Xu

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EDUCATION

Ph.D. in Computer Science, advised by Prof. Ling-Qi Yan **2023 - Present**
University of California, Santa Barbara & Santa Barbara, USA
Mohamed bin Zayed University of Artificial Intelligence Abu Dhabi, UAE
*Started Ph.D. at UCSB, transferred with advisor to MBZUAI in 2025

M.Eng. in Software Engineering, advised by Prof. Lu Wang **2020 - 2023**
Shandong University Jinan, China
*Ranked 1st in the major

B.Eng. in Software Engineering **2016 - 2020**
Shandong University Jinan, China

RESEARCH INTERESTS

Real-time Neural Appearance → Rendering → Computer Graphics
My research focuses on leveraging neural techniques for efficient and accurate appearance representation, with a special emphasis on real-time performance. It also explores advanced features (e.g., dynamic synthesis) that are challenging for traditional methods.

SELECTED PUBLICATIONS

Towards Comprehensive Neural Materials: Dynamic Structure-Preserving Synthesis with Accurate Silhouette at Instant Inference Speed **2025**
Zilin Xu, Xiang Chen, Chen Liu, Beibei Wang, Lu Wang, Zahra Montazeri, Ling-Qi Yan
SIGGRAPH 2025
*Video clips featured in the Technical Papers Trailer.

A Dynamic By-example BTF Synthesis Scheme **2024**
Zilin Xu, Zahra Montazeri, Beibei Wang, Ling-Qi Yan
SIGGRAPH Asia 2024

Lightweight Neural Basis Functions for All-Frequency Shading **2022**
Zilin Xu, Zheng Zeng, Lifan Wu, Lu Wang, Ling-Qi Yan
SIGGRAPH Asia 2022

Unsupervised Image Reconstruction for Gradient-Domain Volumetric Rendering **2020**
Zilin Xu, Qiang Sun, Lu Wang, Yanning Xu, Beibei Wang
Computer Graphics Forum (Proceedings of ***Pacific Graphics 2020***)

Non-first author papers:
Ray-aligned Occupancy Map Array for Fast Approximate Ray Tracing **2023**
Zheng Zeng, **Zilin Xu**, Lu Wang, Lifan Wu, Ling-Qi Yan
Computer Graphics Forum (Proceedings of ***Eurographics Symposium on Rendering 2023***)

Neural Complex Luminaires: Representation and Rendering **2021**
Junqiu Zhu, Yaoyi Bai, **Zilin Xu**, Steve Bako, Edgar Velázquez-Armendáriz, Lu Wang, Pradeep Sen, Miloš Hašan, Ling-Qi Yan
Transactions on Graphics (Proceedings of ***SIGGRAPH 2021***)

TECHNICAL WRITING

Towards Comprehensive Neural Materials: Dynamic Structure-Preserving Synthesis with Accurate Silhouette at Instant Inference Speed **2025**
Zilin Xu, Xiang Chen, Beibei Wang, Lu Wang, Zahra Montazeri, Ling-Qi Yan
GPU Zen 4

Cascaded Ray-aligned Occupancy Map Array for Fast Approximate Ray Tracing in Large Scale Scenes **2025**
Zheng Zeng, **Zilin Xu**, Lifan Wu, Ling-Qi Yan
GPU Zen 4

WORK EXPERIENCE

Research Scientist Intern (ongoing) **Summer 2025**
Meta Reality Labs Research Redmond, USA
Neural materials on mobile devices (Quest3).

Graphics Development Engineer Intern **Summer 2024**
Autodesk, Inc. (Remote from) Santa Barbara, USA
Advanced 3D Wood Material and By-example Texture Synthesis in MaterialX.

TEACHING EXPERIENCE

CS190I: Introduction to Offline Rendering **Winter 2024**
Teaching Assistant @***University of California, Santa Barbara*** Santa Barbara, USA

Advanced Programming Language (Java) **Fall 2020**
Teaching Assistant @***Shandong Univerisity*** Jinan, China

PROFESSIONAL SKILLS

Programming Languages: C/C++, CUDA, Python, Shader languages (Slang/HLSL/GLSL)
Technical Skills: Pytorch, Falcor Renderer, Blender, 3DS Max

PROFESSIONAL SERVICES

Conference reviewer: *SIGGRAPH*, *SIGGRAPH Asia* , *Eurographics* (EG), *Pacific Graphics* (PG)
Journal reviewer: *Transactions on Graphics* (ToG), *Transactions on Visualization and Computer Graphics* (TVCG), *Computer Graphics Forum* (CGF)

INVITED TALKS

Neural Complex Luminaires: Representation and Rendering **2021**
CCF International Conference on CAD&CG 2020/2021 Dalian, China

SELECTED AWARDS

National Scholarship ($< 1\%$) **2022**
Shandong University Chancellor's Scholarship Nomination ($< 0.1\%$) **2022**
Weichai Outstanding Graduate Student Scholarship ($< 1\%$) **2021**
Outstanding Graduate Student Award **2022**
First Prize Scholarship of Shandong University **2021**
Intel Cup **National Software Innovation Competition in China (ranked #17 nationally)** **2019**