

Zilin Xu

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EDUCATION

Ph.D. in Computer Science, advised by Prof. Ling-Qi Yan <i>Mohamed bin Zayed University of Artificial Intelligence</i> 2025 - Present	2023 - Present Abu Dhabi, UAE
University of California, Santa Barbara 2023 - 2025	Santa Barbara, CA, USA
*Started Ph.D. at UCSB, transferred with advisor to MBZUAI in 2025	
M.Eng. in Software Engineering, advised by Prof. Lu Wang <i>Shandong University</i> *Ranked 1st in the major	2020 - 2023 Jinan, China
B.Eng. in Software Engineering <i>Shandong University</i>	2016 - 2020 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

Real-Time Neural Materials on Mobile VR <i>Zilin Xu, Yang Zhou, Yehonathan Litman, Matt Jen-Yuan Chiang, Ling-Qi Yan, Anton Michels</i> <i>Computer Graphics Forum</i> (Proceedings of <i>Eurographics 2026</i>)	2026
Improving Angular Parameterization for Compact Neural Materials <i>Zilin Xu, Yang Zhou, Yehonathan Litman, Ling-Qi Yan, Anton Michels</i> <i>SIGGRAPH Asia 2025 - Poster</i>	2025
Towards Comprehensive Neural Materials: Dynamic Structure-Preserving Synthesis with Accurate Silhouette at Instant Inference Speed <i>Zilin Xu, Xiang Chen, Chen Liu, Beibei Wang, Lu Wang, Zahra Montazeri, Ling-Qi Yan</i> <i>SIGGRAPH 2025</i>	2025
*Video clips featured in the Technical Papers Trailer.	
A Dynamic By-example BTF Synthesis Scheme <i>Zilin Xu, Zahra Montazeri, Beibei Wang, Ling-Qi Yan</i> <i>SIGGRAPH Asia 2024</i>	2024
Lightweight Neural Basis Functions for All-Frequency Shading <i>Zilin Xu, Zheng Zeng, Lifan Wu, Lu Wang, Ling-Qi Yan</i> <i>SIGGRAPH Asia 2022</i>	2022
Unsupervised Image Reconstruction for Gradient-Domain Volumetric Rendering <i>Zilin Xu, Qiang Sun, Lu Wang, Yanning Xu, Beibei Wang</i> <i>Computer Graphics Forum</i> (Proceedings of <i>Pacific Graphics 2020</i>)	2020
Non-first author papers:	
Ray-aligned Occupancy Map Array for Fast Approximate Ray Tracing <i>Zheng Zeng, Zilin Xu, Lu Wang, Lifan Wu, Ling-Qi Yan</i> <i>Computer Graphics Forum</i> (Proceedings of <i>Eurographics Symposium on Rendering 2023</i>)	2023
Neural Complex Luminaires: Representation and Rendering <i>Junqiu Zhu, Yaoyi Bai, Zilin Xu, Steve Bako, Edgar Velázquez-Armendáriz, Lu Wang, Pradeep Sen, Miloš Hašan, Ling-Qi Yan</i> <i>Transactions on Graphics</i> (Proceedings of <i>SIGGRAPH 2021</i>)	2021

TECHNICAL WRITING

Towards Comprehensive Neural Materials <i>Zilin Xu, Xiang Chen, Beibei Wang, Lu Wang, Zahra Montazeri, Ling-Qi Yan</i> <i>GPU Zen 4</i>	2025
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WORK EXPERIENCE

Research Scientist Intern Meta Reality Labs Research Real-time Neural Materials on Mobile VR (Meta Quest3).	Summer 2025 Redmond, WA, USA
Top-rated Intern at Reality Labs!	

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

CS190I: Introduction to Offline Rendering University of California, Santa Barbara Teaching Assistant	Winter 2024 Santa Barbara, CA, USA
Advanced Programming Language (Java) Shandong University Teaching Assistant	Fall 2020 Jinan, China

INVITED TALKS

Towards Comprehensive Neural Materials <i>Shandong University</i>	Sept. 2025 Jinan, China
Novel Rendering Methods under the New Paradigm <i>GAMES Webinar</i> 🔗 https://www.bilibili.com/video/BV1BEaPzBEWJ/	Aug. 2025 Online, China
Towards Comprehensive Neural Materials <i>South California Rendering Day - University of California, San Diego</i>	May 2025 San Diego, CA, USA
Dynamic BTF Synthesis <i>South California Rendering Day - University of California, Irvine</i>	Mar. 2024 Irvine, CA, USA
Neural Complex Luminaires: Representation and Rendering <i>CCF International Conference on CAD&CG 2020/2021</i>	Oct. 2021 Dalian, China

PROFESSIONAL SKILLS

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

PROFESSIONAL SERVICES

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

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