Zoubin Bi

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Education

Zhejiang University
M.Sc of Software Engineering *Sep. 2022 – Jun. 2025*

Zhejiang University
B.Eng of Computer Science *Aug. 2018 – Jun. 2022*

Experience

Research Assistant
State Key Lab of CAD&CG, Zhejiang University, China *Sep. 2022 – Present.*

- Research Topic: acquisition and reconstruction of **material & geometry**.
- Co-design and co-optimize software-hardware to accelerate acquisition and reconstruction.
- Advisor: Prof. Hongzhi Wu. & Prof. Kun Zhou

Official Reviewer
SIGGRAPH, SIGGRAPH Asia, Pacific Graphics

Research

GS^3: Efficient Relighting with Triple Gaussian Splatting
Research Paper (https://GSrelight.github.io/)

- First-authored paper accepted to **SIGGRAPH Asia 2024**.
- Proposed a novel representation based on **3D Gaussian Splatting** (3D-GS), which enables **high-quality modeling of complex scenes**, such as anisotropic, fluffy, translucent, and glint.
- Proposed a novel shadow representation method tailored for 3D-GS-based scenes, which enables **efficient shadow computation**.

ARM: Appearance Reconstruction Model for Relightable 3D Generation
Research Paper (https://arm-aigc.github.io/)

- Joint first-authored paper accepted to **CVPR 2025**.
- Proposed an innovative material generation approach utilizing UV texture space, which effectively separates geometry from material. This method significantly improves the quality and integrity of generated textures through the implementation of a neural network featuring a global receptive field within the UV space.
- Introduced a material prior encoder effectively resolves the ambiguity between material and lighting in input images, thereby enhancing the robustness of material generation.

Differentiable Dynamic Visible-Light Tomography
Research Paper (https://svbrdf.github.io/publications/dynamicCT/project.html)

- Joint first-authored paper accepted to **SIGGRAPH Asia 2023**.
- Proposed the first visible-light tomography system for real-time acquisition and reconstruction of general temporally-varying 3D phenomena.
- Proposed a novel differentiable framework to map both tomography acquisition and reconstruction to an autoencoder.
- Built a prototype hardware using fibers and LED arrays, and developed corresponding calibration method.

Real-time Acquisition and Reconstruction of Dynamic Volumes with Neural Structured Illumination
Research Paper (https://svbrdf.github.io/publications/realtimedynamic/project.html)

- Joint first-authored paper accepted to **CVPR 2024**.
- Proposed a novel framework for real-time acquisition and reconstruction of temporally-varying 3D phenomena with high quality.
- Demonstrated the effectiveness of the framework on a lightweight setup with an off-the-shelf projector, and developed a complete calibration algorithm.