

Zoubin Bi

Tel: +86153-3653-9133 | E-mail: bzbi@zju.edu.cn | Github: <https://github.com/RupertPaoZ>

Education

Zhejiang University

M.Sc of Software Engineering

Sep. 2022 – Jun. 2025 (expected)

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.

Official Reviewer

SIGGRAPH

Research

GS³: 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.

Projects

Computer Cluster

A Small-Scale Computer Cluster for Research

Mar. 2023 – Apr. 2023

- Set up a computer cluster by NIS and NFS.
- Use ansible to make server maintenance more efficient and more convenient.
- Achieved consistent environment and 10 Gbps speed across different nodes.

Technical Skills

Languages: Python, C/C++, Java, Golang

Web Development: Echo, RestAPI, PostgreSQL, MySQL, Postman

Computer Graphics & Computer Vision: OpenGL, OpenCV

Data Science, Machine Learning & Deep Learning: NumPy, PyTorch, Pandas, SkLearn

Electronic Design & Embedded Systems: Verilog, RISC-V, ZYNQ, Arduino

System Maintenance: Linux, Docker, Ansible

Tools: Git, GDB, Latex, VS Code, Visual Studio