

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 – Mar. 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.

Research

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.

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**.

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