Bingxuan Li

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Research Interests

My current research lies at the intersection of deep learning and different areas of computer graphics, including neural/physically based rendering and computational imaging. More boardly, I am interested in leveraging advanced machine learning techniques to solve the challenges in building realistic, efficient, and interactive visual computing systems.

Education

New York University — New York City, USA
Doctor of Philosophy in Computer Science — *Sep 2024 -*
Advisor: Prof. Qi Sun

Peking University — Beijing, China
Bachelor of Science in Computer Science with Honours, Turing Class — *Sep 2020 – June 2024*

Publications

- **Proxy Tracing: Unbiased Reciprocal Estimation for Optimized Sampling in BDPT**
  ACM Transactions on Graphics (ACM SIGGRAPH 2024) Paper | Project | Video
  Fujia Su*, **Bingxuan Li***, Qingyang Yin, Yanchen Zhang, Sheng Li†
  * Equal contributions

Ongoing Research

- **Content-Adaptive Image Representation via 2D Gaussians**
  We introduce an efficient, content-adaptive neural image representation using anisotropic 2D Gaussians, providing superior visual quality, flexible memory usage, and real-time rendering performance.
- **Metasurface-Based Neural Depth Imaging**
  We built an ultra-compact, metasurface-based neural depth imaging system leveraging nano-optics and deep learning to achieve precise depth estimation from monocular polarized imagery.

Awards

New York University — SoE Fellowship (2024)
Peking University — John Hopcroft Scholarship (2023)
Peking University — John Hopcroft Scholarship (2021)
Peking University — Freshman Scholarship (2020)
Chinese Chemistry Olympiad — Silver Metal (2018)

Skills

- **Programming**: Python, C/C++, C#
- **Tools**: PyTorch, CUDA, OpenGL, OptiX
- **Software**: Blender, Unity
- **Language**: Mandarin, English