Youming Deng

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Education

Cornell University   *Ithaca, New York, United States*
Doctor of Philosophy in Computer Science   *Aug. 2023 - Jun. 2028 (Expected)*
Advisor: Steve Marschner

Wuhan University   *Wuhan, Hubei, China*
Bachelor of Engineering in Spatial Informatics & Digitalized Technology   *Sep. 2019 - Jun. 2023*

Publications

Self-Calibrating Gaussian Splatting for Large Field of View Reconstruction   *arXiv 2024*
Youming Deng, Wenqi Xian, Guandao Yang, Leonidas Guibas, Gordon Wetzstein, Steve Marschner, Paul Debevec

Physics-based Indirect Illumination for Inverse Rendering   *3DV 2024*
Youming Deng, Xueting Li, Sifei Liu, Ming-Hsuan Yang

Hierarchical Memory Learning for Fine-Grained Scene Graph Generation   *ECCV 2022*
Youming Deng, Yansheng Li, Yongjun Zhang, Xiang Xiang, Jian Wang, Jingdong Chen, Jiayi Ma

Research Experience

Research Assistant at Cornell University   *Ithaca, New York, United States*
Advisor: Professor Steve Marschner   *Aug. 2023 - Present*

- Modeled lens distortion using iResNet, outperforming traditional parametric models.
- Extended the pipeline to fisheye cameras with over 180-degree fields of view.

Research Engineer at EPFL   *Lausanne, Switzerland*
Advisor: Professor Wenzel Jakob   *Apr. 2023 - Aug. 2023*

- Developed a conversion tool for scene representations between Blender and Mitsuba3.
- Added new features (*e.g.*, color ramps) to Mitsuba3, fully compatible with Blender.

Research Intern at UC Merced   *Remote*
Advisor: Professor Ming-Hsuan Yang   *Apr. 2022 - Aug. 2023*

- Presented a method for high-fidelity geometry, material, and illumination estimation.
- Developed an efficient sphere tracing algorithm for implicit SDFs.
- Addressed non-differentiability and modeled indirect lighting for improved environmental illumination.

Research Assistant at Wuhan University   *Wuhan, Hubei, China*
Advisor: Professor Yansheng Li   *Jun. 2021 - Apr. 2022*

- Proposed a coarse-to-fine training framework for Scene Graph Generation (SGG).
- Demonstrated efficient handling of extreme long-tail effects in SGG.

Technical Skills

Programming Languages/Tools	C++, CUDA, Python, LaTeX
Frameworks	PyTorch, Keras, Dr.jit, Mitsuba, TensorFlow