

# Xianrui Luo

Homepage

Google Scholar

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## BIOGRAPHY

I am pursuing a Ph.D. degree with the School of Artificial Intelligence and Automation, Huazhong University of Science and Technology, supervised by [Prof. Zhiguo Cao](#) (expected to graduate in July 2025). My research interests lie in 3D vision and image manipulation, with a particular emphasis on computational photography, including image deblurring, all-in-focus synthesis, and bokeh rendering.

## EDUCATION

**Huazhong University of Science and Technology, China**  
*Doctor of Artificial Intelligence*

**Sep 2020 – present**  
GPA: **90.19**

**Huazhong University of Science and Technology, China**  
*Bachelor of Automation*

**Sep 2016 – Jun 2020**  
GPA: **89.2**

## PUBLICATIONS

### Journal Articles

#### Defocus to Focus:

**Photo-realistic Bokeh Rendering by Fusing Defocus and Radiance Priors**  
*Xianrui Luo\**, Juewen Peng\*, Ke Xian, Zijin Wu, Zhiguo Cao (\*Equal Contribution)

**Information Fusion** 2023  
[\[Paper\]](#) [\[Code\]](#)

**Point-and-Shoot All-in-Focus Photo Synthesis From Smartphone Camera Pair**  
*Xianrui Luo*, Juewen Peng, Weiyue Zhao, Ke Xian, Hao Lu, Zhiguo Cao

**IEEE TCSVT** 2023  
[\[Paper\]](#)

**Dual-Camera All-in-Focus Neural Radiance Fields**  
*Xianrui Luo*, Zijin Wu, Juewen Peng, Huiqiang Sun, Zhiguo Cao, Guosheng Lin

**IEEE TPAMI** 2025  
[\[Paper\]](#)

**BokehMe++: Harmonious Fusion of Classical and Neural Rendering for Versatile Bokeh Creation**  
*Juewen Peng*, Zhiguo Cao, *Xianrui Luo*, Ke Xian, Wenfeng Tang, Jianming Zhang, Guosheng Lin

**IEEE TPAMI** 2024  
[\[Paper\]](#)

### Conference Papers

**Dynamic Neural Radiance Field From Defocused Monocular Video**  
*Xianrui Luo*, Huiqiang Sun, Juewen Peng, Zhiguo Cao

**ECCV** 2024  
[\[Paper\]](#) [\[Code\]](#)

**Bokeh Rendering from Defocus Estimation**  
*Xianrui Luo\**, Juewen Peng\*, Ke Xian, Zijin Wu, Zhiguo Cao (\*Equal Contribution)

**ECCVW** 2020  
[\[Paper\]](#)

**Interactive Portrait Bokeh Rendering System**  
*Juewen Peng*, *Xianrui Luo*, Ke Xian, Zhiguo Cao

**ICIP** 2021  
[\[Paper\]](#)

**BokehMe: When Neural Rendering Meets Classical Rendering**  
*Juewen Peng*, Zhiguo Cao, *Xianrui Luo*, Hao Lu, Ke Xian, Jianming Zhang

**CVPR** 2022  
[\[Paper\]](#) [\[Code\]](#)

**MPIB: An MPI-Based Bokeh Rendering Framework for Realistic Partial Occlusion Effects**  
*Juewen Peng*, Jianming Zhang, *Xianrui Luo*, Hao Lu, Ke Xian, Zhiguo Cao

**ECCV** 2022  
[\[Paper\]](#) [\[Code\]](#)

**Fast Full-frame Video Stabilization with Iterative Optimization**  
*Weiyue Zhao*, Xin Li, Zhan Peng, *Xianrui Luo*, Xinyi Ye, Hao Lu, Zhiguo Cao

**ICCV** 2023  
[\[Paper\]](#) [\[Code\]](#)

**Selective Bokeh Effect Transformation**  
*Juewen Peng*, Zhiyu Pan, Chengxin Liu, *Xianrui Luo*, Huiqiang Sun, Liao Shen, Ke Xian, Zhiguo Cao

**CVPRW** 2023  
[\[Paper\]](#) [\[Code\]](#)

## EXPERIENCE

**Project Officer | S-Lab for Advanced Intelligence, Nanyang Technological University**  
Advisor: [Prof. Guosheng Lin](#)

Nov 2023-Nov 2024

PROJECT

<b>S-Lab Funding Project on Human Avatar Modeling</b> I serve as a core member responsible for 3D Human Avatar Modeling.	Nov 2023 – Nov 2024
<b>NTIRE 2023 Challenge on Bokeh Effect Transformation (CVPR2023 Workshop)</b> Winner Award	Jun 2023
<b>Vivo Funding Project on Simulation of Bokeh Effect from DSLR</b> I serve as a core member responsible for realistic bokeh synthesis for smartphone photography.	Jan 2023 – Dec 2023
<b>AIM 2020 Challenge on Rendering Realistic Bokeh (ECCV2020 Workshop)</b> Runner Up Award	Aug 2020

AWARDS AND HONORS

<b>National Scholarship</b>	<i>Huazhong University of Science and Technology</i>	2024
<b>Academic Scholarship</b>	<i>Huazhong University of Science and Technology</i>	2020-2024
<b>Outstanding Graduates</b>	<i>Huazhong University of Science and Technology</i>	2020
<b>Merit Student</b>	<i>Huazhong University of Science and Technology</i>	2016, 2023
<b>Best Poster Award</b>	<i>Artificial Intelligence Conference and Entrepreneurs Summit Forum of China's Optics Valley</i>	2022

SKILLS

<b>Programming Language</b> <i>Python, MATLAB, C</i>	<b>Machine Learning Tools</b> <i>PyTorch, OpenCV</i>	<b>English</b> <i>TOEFL 109, GRE 325 (AW 4.0)</i>
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