LEI ZHU

ray.leizhu@outlook.com ◇ https://rayleizhu.github.io

EDUCATION AND EXPERIENCE

City University of Hong Kong *2019 - present*
Ph.D. student in Computer Science

Dept. of CSE, Dalian University of Technology *2015 - 2018*
B.Eng. in Computer Science
Graduated with Hornors, GPA 91.5/100, Rank 1/102

Dept. of Mechanics Engineering, Dalian University of Technology *2014 - 2015*
Undergraduate, GPA 93.2/100, Rank 1/81

PUBLICATIONS

BiFormer: Vision Transformer with Bi-Level Routing Attention
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2023.
Lei Zhu, Xinjiang Wang, Zhanghan Ke, Wayne Zhang and Rynson W.H. Lau
TL;DR: Content-aware sparse attention via a coarse-to-fine routing mechnism.

Neural Preset for Color Style Transfer
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2023.
Zhanghan Ke, Yuhao Liu, Lei Zhu, Nanxuan Zhao and Rynson W.H. Lau
TL;DR: Predict color mapping matrix from low-resolution image for efficient color transfer.

Harmonizer: Learning to Perform White-box Image and Video Harmonization
Proceedings of European Conference on Computer Vision (ECCV) 2022
Zhanghan Ke, Chunyi Sun, Lei Zhu, Ke Xu and Rynson W.H. Lau
TL;DR: Predict white-box filter parameters with NNs for efficient image and video harmonization.

Mitigating Intensity Bias in Shadow Detection via Feature Decomposition and Reweighting
IEEE International Conference on Computer Vision(ICCV) 2021.
Lei Zhu, Ke Xu, Zhanghan Ke, and Rynson W.H. Lau
TL;DR: Learning disentangled representation with self-supervision for shadow detection.

Towards Self-Adaptive Pseudo-Label Filtering for Semi-Supervised Learning
Arxiv Preprint
Lei Zhu, Zhanghan Ke, and Rynson W.H. Lau
TL;DR: Use Beta Mixture Model (BMM) to filter pseudo labels automatically.

SELECTED AWARDS

2nd Prize of the Chinese Mathematics Competitions (CMC) Final (Top 0.1%)
3rd prize of The Zhou Peiyuan Mechanics Competition for College Students (Top 5%)
Outstanding graduate of Liao Ning Province (Top 3%)

RESEARCH INTERESTS

Transformer, vision-language models, 3D vision & differentiable rendering.
Previously, I also had some experience in semi-supervised learning and low-level vision.

SKILLS

C/C++/CUDA/OpenAI Triton; Python/Pytorch/Tensorflow; ROS; Linux/bash; LaTeX