

Kun Zhou

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EDUCATION

CUHK-SZ

Ph.D. Computer and Information Engineering.; GPA 3.9/4.0

Shenzhen, Guangdong

Sep. 2021 – Oct. 2024

PUBLICATIONS

- **Kun Zhou**, Wenbo Li, Nianjuan Jiang, Xiaoguang Han, Jiangbo Lu. “From NeRFLiX to NeRFLiX++: A General NeRF-Agnostic Restorer Paradigm”, *IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)* 2024.
- **Kun Zhou**, Xiaoguang Han, Nianjuan Jiang, Kui Jia, Jiangbo Lu. “Hemlets posh: Learning part-centric heatmap triplets for 3d human pose and shape estimation”, *IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)* 2022.
- **Kun Zhou**, Xinyu Lin, Zhonghang Liu, Xiaoguang Han, Jiangbo Lu. “UPS: Unified Projection Sharing for Lightweight Single-Image Super-resolution and Beyond”, **NeurIPS** 2024.
- **Kun Zhou**, Xinyu Lin, Wenbo Li, Xiaogang Xu, Yuanhao Cai, Zhonghang Liu, Xiaoguang Han, Jiangbo Lu. “Unveiling Advanced Frequency Disentanglement Paradigm for Low-Light Image Enhancement”, **ECCV** 2024.
- **Kun Zhou**, Wenbo Li, Xiaoguang Han, Jiangbo Lu. “Exploring Motion Ambiguity and Alignment for High-Quality Video Frame Interpolation”, **CVPR** 2023.
- **Kun Zhou**, Wenbo Li, Yi Wang, Tao Hu, Nianjuan Jiang, Xiaoguang Han, Jiangbo Lu. “NeRFLix: High-quality Neural View Synthesis by Learning a degradation-driven inter-viewpoint mixer”, **CVPR** 2023.
- **Kun Zhou**, Wenbo Li, Liying Lu, Xiaoguang Han, Jiangbo Lu. “Revisiting Temporal Alignment for Video Restoration”, **CVPR** 2022.
- **Kun Zhou**, Xiaoguang Han, Nianjuan Jiang, Kui Jia, Jiangbo Lv, HEMlets Pose: Learning Part-Centric Heatmap Triplets for Accurate 3D Human Pose Estimation, **ICCV** 2019.
- Wenbo Li*, **Kun Zhou***, Lu Qi, Liying Lu, Nianjuan Jiang, Jiangbo Lu, Jiaya Jia. “Best-Buddy GANs for Highly Detailed Image Super-Resolution”, *AAAI Conference on Artificial Intelligence AAAI*, 2022. (* **Joint first author**)
- Wenbo Li*, **Kun Zhou***, Lu Qi, Nianjuan Jiang, Jiangbo Lu, Jiaya Jia: LAPAR: Linearly-Assembled Pixel-Adaptive Regression Network for Single Image Super-Resolution and Beyond, **NeurIPS** 2020. (* **Joint first author**)
- Wenbo Li, Zhe Lin, **Kun Zhou**, Lu Qi, Yi Wang, Jiaya Jia. “MAT: Mask-Aware Transformer for Large Hole Image Inpainting”, *IEEE Conference on Computer Vision and Pattern Recognition CVPR* 2022.
- Hui Zhang, Zhen Liu, Yanjie Cai, Tingting Liu, **Kun Zhou**: Real-time collision detection method for fluid and cloth, **Journal of CAD-CG**, 2018.

EXPERIENCES

Research Engineer

Cloudream Technology Co., Ltd

June 2017 – March 2020

Nanshan Shenzhen

- Developed a real-time virtual avatar animation system based on 3D human pose.
- Proposed a 3D human pose estimation algorithm that achieves the state-of-the-art performance (Ranked No.1 on Human3.6M Benchmark 2018).
- Proposed a generative adversarial learning method which got fourth place in the ECCV-2018 workshop.
- Proposed a 3D human body recovery method that makes the lowest prediction error compared to other methods.
- Proposed a human body/head segmentation algorithm which has improved the accuracy by about 1.0 percent than the previous one.
- Proposed a robust and efficient key-points detection algorithm of high-resolution garment image.
- Proposed a frame-interpolation method that can generate a set of consecutive image frames from two single images.

Research Intern

March 2020 – 2024

SmartMore Technology Co., Ltd

Nanshan Shenzhen

- Developed a real-time image super-resolution algorithm which has been deployed in edge-devices.
- Proposed a HDR & low-light enhancement algorithm which achieves the state-of-art performance.
- Proposed an efficient temporal pixel aggregation algorithm which accelerates 20-30 times than the original method.
- Proposed a distillation learning method to remove JPEG compression artifacts as well as various noises while keeping the main structure of image textures.
- Proposed a highly detailed image super-resolution algorithm which can generate images with more natural details and fewer art-facts.
- 4K high-quality novel view synthesis, fast 3D object reconstruction, differentiable rendering.
- General Video Restoration, including frame interpolation/extrapolation, denosing, deblurring, super-resolution.

SKILLS

Languages: Python, C/C++, C#

Deep Learning Frameworks: PyTorch, TensorFlow

Developer Tools: Git, Docker, VS Code, Visual Studio, PyCharm, Uinity3D

AWARDS

- The 3rd National Graduate Smart City Technology and Creative Design Competition (Top 2%)
- National Post-Graduate Mathematical Contest in Modeling (Third prize)
- Post-Graduate Second Scholarship (Ningbo University)
- ECCV 2018 3D Human pose estimation CHALL_H80K (Fourth in the final rank)
- Human3.6M Benchmark 3D Human pose estimation (Top-1 in 2018)

ACADEMIC SERVICE

Conference PC Member: AAAI 2025

Conference Reviewer: ICCV, ECCV, CVPR, NeurIPS, ICLR, ACCV, AAAI

Journal Reviewer: IJCV, TIP, TVGC, T-SMCA, ESWA.

PATENTS

CN115861520B: Method, Device, Computer Equipment, and Storage Medium for Highlight Detection

CN116109799A: Method, Device, Computer Equipment, and Storage Medium for Adjusting Model Training

CN115082358A: Method, Device, Computer Equipment, and Storage Medium for Image Enhancement

CN115205494A: Method, Device, Computer Equipment, and Storage Medium for Object Modeling

CN113891027A: Method, Device, Computer Equipment, and Storage Medium for Video Frame Interpolation

CN113781312A: Method, Device, Computer Equipment, and Storage Medium for Video Enhancement

CN113225590A: Method, Device, Computer Equipment, and Storage Medium for Video Super-Resolution

CN113034368A: Method, Device, Computer Equipment, and Medium for Image Super-Resolution Model Training

CN111951167A: Method, Device, Computer Equipment, and Storage Medium for Image Super-Resolution

CN118644756A: Method, Device, Computer Equipment, and Storage Medium for Image Processing

CN118628413A: Method, Device, Computer Equipment, and Storage Medium for Image Restoration

CN118411286A: Method, Device, Computer Equipment, and Storage Medium for Decoupled Bar-code Generation

CN117611953B: Method, Device, Computer Equipment, and Storage Medium for Bar-code Generation

CN117115047A: Method, Device, Computer Equipment, and Storage Medium for Image Enhancement

CN116912148A: Method, Device, Computer Equipment, and Storage Medium for Lightweight Image Enhancement

CN116894802A: Method, Device, Computer Equipment, and Storage Medium for Real-time Image Enhancement