Jun Xiao

(+852) 59325705 | jun.xiao@connect.polyu.hk | junxiao01.github.io | Jun Xiao

Education

Ph.D., The Hong Kong Polytechnic University — *Hong Kong*

Full scholarship, Department of Electronic and Information Engineering, Supervised by Prof. Kin-Man Lam — *Sep. 2018 - Sep. 2022*

- **Thesis topic:** Machine Learning for Image Super-resolution in Real-world Applications

Master, The Hong Kong Polytechnic University — *Hong Kong*

*MSc in Electronic and Information Engineering **(Distinction)**, Supervised by Prof. Kin-Man Lam* — *Sep. 2016 - Mar. 2018*

- **Award**: The Outstanding Post-graduate Student Scholarship. (**Top 5%**)

Bachelor, Guangdong University of Technology — *Guangzhou, China*

BEng in Telecommunication Engineering — *Sep. 2012 - Jun. 2016*

- **Award**: The Outstanding Student Scholarships. (**Top 5%**)

Working Experience

Postdoctoral Fellow, The Hong Kong Polytechnic University — *Hong Kong*

Full-time, Grant by Research Talent Hub, Supervised by Prof. Kin-Man Lam — *Oct. 2022-Present*

- **Research topics**: image/video restoration and enhancement, SDE-based generative models (e.g., diffusion models), and topics related to AI-generated content (AIGC).

Computer Vision Researcher, Microsoft Research Asia (MSRA) — *Shanghai, China*

Internship, mentors: Xinyang Jiang and Dongsheng Li — *Sep. 2021-Jan. 2022*

- Responsible for the project "online video restoration and enhancement system"; Accelerate the processing speed of online video products; Publish a high-quality paper in IEEE Transaction on Multimedia.
- **Award**: MSRA Stars of Tomorrow **(Award for Excellent Intern)**

Selected Publications

1. **Jun Xiao**, Zihang Lyu, Cong Zhang, Yakun Ju, Changjian Shui, and Kin-Man Lam. "Towards Progressive Multi-Frequency Representation for Image Warping", in Proceedings of the **IEEE Conference on Computer Vision and Pattern Recognition (CVPR)**, 2024.
2. **Jun Xiao**, Changjian Shui, Zhi-Song Liu, Qian Ye, and Kin-Man Lam, "Learning Equilibrium Transformation for Gamut Expansion and Color Restoration", in Proceedings of the **European Conference on Computer Vision (ECCV)**, 2024.
3. **Jun Xiao**, Qian Ye, Tianshan Liu, Cong Zhang, and Kin-Man Lam, "Deep Progressive Feature Aggregation Network for Multi-frame High Dynamic Range Imaging", **Neurocomputing**, 2024.
4. **Jun Xiao**, Qian Ye, Rui Zhao, Kin-Man Lam, and Kao Wan, "Deep Multi-scale Feature Mixture Model for Image Super-resolution with Multiple-Focal-length Degradation", **Signal Processing: Image Communication**, 2024.
5. **Jun Xiao**, Kin-Man Lam, et al. "Online Video Super-Resolution with Convolutional Kernel Bypass Graft", **IEEE Transaction on Multimedia (TMM)**, 2023.
6. **Jun, Xiao**, Qian, Ye, Rui Zhao, Kin-Man Lam, and Kao Wan. "Self-feature Learning: An Efficient Deep Lightweight Model for Image Super-resolution", in Proceedings of the **ACM Conference on Multimedia (ACM-MM)**, 2021.
7. Qian Ye, **Jun Xiao**, et al. "Progressive and Selective Fusion Network for High Dynamic Range Imaging", in Proceedings of the **ACM Conference on Multimedia (ACM-MM)**, 2021. (Equal Contribution)
8. **Jun Xiao**, Tianshan Liu, Rui Zhao, and Kin-Man Lam, "Balanced Distortion and Perception in Single-Image Super-Resolution Based on Optimal Transport in Wavelet Domain", **Neurocomputing**, 2021.
9. **Jun Xiao**, Rui zhao, Kin-Man Lam, et al, "Bayesian Sparse Hierarchical Model for Image Denoisin", **Signal Processing: Image Communication**, 2021.
10. **Jun Xiao**, Wenqi Jia, and Kin-Man Lam, "Feature Redundancy Mining: Deep Light-weight Image Super-resolution Model", in Proceedings of the **International Conference on Acoustics, Speech and Signal Processing (ICASSP)**, 2021.

11. **Jun Xiao**, Rui Zhao, Shun-Cheung Lai, Wenqi Jia, and Kin-Man Lam, "Deep Progressive Convolutional Neural Network for Blind Super-Resolution With Multiple Degradations", in Proceedings of the **IEEE International Conference on Image Processing (ICIP)**, 2019.
12. Cong Zhang, Tianshan Liu, **Jun Xiao**, Kin-Man Lam, and Qi Wang. "Boosting Object Detectors via Strong classification Weak-localization Pretraining in Remote Sensing Imagery", **IEEE Transactions on Instrumentation and Measurement (TIM)**, 2023.
13. Cuixin Yang, **Jun Xiao**, YaKun Ju, Guoping Qiu, and Kin-Man Lam. "Improving Robustness of Single Image Super-resolution Models with Monte Carlo Method", in Proceedings of the **IEEE International Conference on Image Processing (ICIP)**, 2023.
14. Yakun Ju, Kin-Man Lam, **Jun Xiao**, Cong Zhang, Cuixin Yang, and Junyu Dong. "Efficient Feature Fusion for Learning-based Photometric Stereo", in Proceedings of the **IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)**, 2023.
15. Rui Zhao, Tianshan Liu, **Jun Xiao**, et al. "Invertible Image Decolorization", **IEEE Transactions on Image Processing (TIP)**, 2021.
16. Rui Zhao, Tianshan Liu, **Jun Xiao**, Daniel PK Lun, and Kin-Man Lam. "Deep multi-task learning for facial expression recognition and synthesis based on selective feature sharing", in Proceedings of the **International Conference on Pattern Recognition (ICPR)**, 2021.
17. Tianshan Liu, Rui Zhao, **Jun Xiao**, and Kin-Man Lam, "Progressive Motion Representation Distillation With Two-Branch Networks for Egocentric Activity Recognition", **IEEE Signal Processing Letters**, 2020.

Academic Experience

- **Regular Reviewer**:
  - Journals:
    - IEEE Transactions on Circuits and Systems for Video Technology
    - Pattern Recognition
    - Knowledge-based Systems
    - Information Fusion
  - Conferences:
    - Neural Information Processing Systems (NeurIPS): 2024
    - European Conference on Computer Vision (ECCV): 2024
    - ACM Conference on Multimedia (ACM-MM): 2022, 2023, 2024
    - Asia Conference on Computer Vision (ACCV), 2022
    - Winter Conference on Applications of Computer Vision (WACV): 2022, 2024, 2025
    - IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP): 2023
    - IEEE International Conference on Visual Communications and Image Processing (VCIP): 2020, 2022.

Professional Skills

Programming Skills Python (proficient), Matlab, C++, Pytorch (proficient), Microsoft Azure (proficient), Spark, Scikit-Learn (proficient), SQL.
Languages Mandarin (native speaker), Cantonese (native speaker), English

Work Authorization

I am legally authorized to work in Mainland China, Hong Kong, and Canada (applying the OWP visa). I am also open to considering opportunities in other locations, provided that a working visa sponsorship is available.