XIAODONG CUN

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WORK INFORMATION

Senior Researcher, Video Generation and Editing, **Tencent AI Lab**   *Sep. 2021 - Now*

EDUCATION

Ph.D, Computer Science, **University of Macau**   *Aug. 2018 - Jun. 2021*

M.S, Computer Science, **University of Macau**   *Aug. 2015 - Jun. 2018*

B.S, Computer Science, **Xidian University**   *Sep. 2011 - Jun. 2015*

RESEARCH HIGHLIGHTS

All Top-tier papers (32): CVPR (13), ICCV (4), ECCV (3), AAAI (4), TIP (1), SIGGRAPH Asia (2), ICASSP (1), NeurIPS (1), ICLR (1), TVCG (1), Eurographics (1).

Single First Author (4). Joint First or Corresponding Author (13). Joint first and Corresponding authors are marked as * and # respectively.

1. **Xiaodong Cun**, Chi-Man Pun and Cheng Shi. *Towards Ghost-free Shadow Removal via Dual Hierarchical Aggregation Network and Shadow Matting GAN*. **AAAI 2020** (**citations: 150**).

2. **Xiaodong Cun** and Chi-Man Pun. *Improving the Harmony of the Composite Image by Spatial-Separated Attention Module*. **IEEE Transactions on Image Processing 2020** (**citations: 122**).

3. **Xiaodong Cun** and Chi-Man Pun. *Defocus Blur Detection via Depth Distillation*. **ECCV 2020**.

4. **Xiaodong Cun** and Chi-Man Pun. *Split then Refine: Sequential Attention-guided ResUNets for Blind Single Image Visible Watermark Removal*. **AAAI 2021**.

5. Jingtang Liang*, **Xiaodong Cun***, Chi-Man Pun and Jue Wang. *Spatial-Separated Curve Rendering Network for Efficient and High-Resolution Image Harmonization*. **ECCV 2022**.

6. Wenxuan Zhang*, **Xiaodong Cun***, Xuan Wang, Yong Zhang, Xi Shen, Yu Guo, Ying Shan, Fei Wang. *SadTalker: Learning Realistic 3D Motion Coefficients for Stylized Audio-Driven Single Image Talking Face Animation*. **CVPR 2023**. (Github Star 9200+, top open-sourced project at CVPR 2023)

7. Kun Cheng*, **Xiaodong Cun#***, Yong Zhang, Menghan Xia, Fei Yin, Mingrui Zhu, Xuan Wang, Jue Wang, and Nannan Wang. *VideoReTalking: Audio-based Lip Synchronization for Talking Head Video Editing In the Wild*. **SIGGRAPH Asia (Conference Track) 2022**. (GitHub Stars: 5000+)

8. Yihao Zhi*, **Xiaodong Cun***, Xuelin Chen, Xi Shen, Wen Guo, Shaoli Huang, Shenghua Gao. *LivelySpeaker: Towards Semantic-aware Co-Speech Gesture Generation*. **ICCV 2023**.

9. Xuhang Chen*, **Xiaodong Cun***, Chi-Man Pun, Shuqiang Wang. *ShaDocNet: Learning Spatial-Aware Tokens in Transformer for Document Shadow Removal*. **ICASSP 2023**.

10. Yaofang Liu*, **Xiaodong Cun***, Xuebo Liu, Xintao Wang, Yong Zhang, Haoxin Chen, Yang Liu, Tieyong Zeng, Raymond Chan, Ying Shan. *EvalCrafter: Benchmarking and Evaluating Large Video Generation Models*. **CVPR 2024**.

11. Weihuang Liu*, **Xiaodong Cun*** and Chi-Man Pun. *DH-GAN: Image Manipulation Localization via a Dual Homology-aware Generative Adversarial Network.* **Pattern Recognition, 2024.**

12. Weihuang Liu, **Xiaodong Cun#**, Chi-Man Pun#, Menghan Xia, Yong Zhang, and Jue Wang. *CoordFill: Efficient High-Resolution Image Inpainting via Parameterized Coordinate Querying.* **AAAI 2023 (Oral)**.

13. Zhendong Wang, **Xiaodong Cun#**, Jianmin Bao, Jianzhuang Liu, Wengang Zhou, and Houqiang Li. *Uformer: A General U-Shaped Transformer for Image Restoration,* **CVPR 2022**. (900 Citation+, Github Star 700+, CVPR 22 Top 10 influence paper)

14. Weihuang Liu, Xi Shen, Chi-Man Pun#, **Xiaodong Cun#**. *Explicit Visual Prompting for Low-Level Structure Segmentations.* **CVPR 2023**.

15. Chenyang Qi, **Xiaodong Cun#**, Yong Zhang, Chenyang Lei, Xintao Wang, Ying Shan, Qifeng Chen#. *FateZero: Fusing Attentions for Zero-shot Text-based Video Editing,* **ICCV 2023 (Oral)**.(1k+ Github Stars)

16. Zinuo Li*, Xuhang Chen*, Chi-Man Pun#, **Xiaodong Cun#**. *High-Resolution Document Shadow Removal via A Large-Scale Real-World Dataset and A Frequency-Aware Shadow Erasing Net.* **ICCV 2023**.

17. Yudian Zheng, **Xiaodong Cun#**, Menghan Xia, Chi-Man Pun. *Sketch Video Synthesis.* **EuroGraphics 2024**.

18. Weihuang Liu, Xi Shen, Haolun Li, Xiuli Bi, Bo Liu, Chi-Man Pun#, **Xiaodong Cun#**. *Depth-aware Test-Time Training for Zero-shot Video Object Segmentation* **CVPR 2024**.

19. Muyao Niu, **Xiaodong Cun#**, Xintao Wang, Yong Zhang, Ying Shan, Yinqiang Zheng#. *MOFA-Video: Controllable Image Animation via Generative Motion Field Adaptions in Frozen Image-to-Video Diffusion Model.* **ECCV 2024**.

20. Fei Yin, Yong Zhang, **Xiaodong Cun**, Mingdeng Cao, Yanbo Fan, Xuan Wang, Qingyan Bai, Baoyuan Wu, Jue Wang, Yujiu Yang. *StyleHEAT: One-Shot High-Resolution Editable Talking Face Generation via Pretrained StyleGAN.* **ECCV 2022**.

21. Jianrong Zhang*, Yangsong Zhang*, **Xiaodong Cun**, Shaoli Huang, Yong Zhang, Hongwei Zhao, Hongtao Lu, Xi Shen. *T2M-GPT: Generating Human Motion from Textual Descriptions with Discrete Representations.* **CVPR 2023**.

22. Youxin Pang, Yong Zhang, Weize Quan, Yanbo Fan, **Xiaodong Cun**, Ying Shan, Dong-ming Yan. *DPE: Disentanglement of Pose and Expression for General Video Portrait Editing.* **CVPR 2023**.

23. Fei Yin, Yong Zhang, Xuan Wang, Tengfei Wang, Xiaoyu Li, Yuan Gong, Yanbo Fan, **Xiaodong Cun**, Ying Shan, Cengiz Oztireli, Yujiu Yang. *3D GAN Inversion with Facial Symmetry Prior.* **CVPR 2023**.

24. Jinbo Xing, Menghan Xia, Yuechen Zhang, **Xiaodong Cun**, Jue Wang, Tien-Tsin Wong. *CodeTalker: Speech-Driven 3D Facial Animation with Discrete Motion Prior.* **CVPR 2023**.

25. Yuan Gong, Yong Zhang, **Xiaodong Cun**, Fei Yin, Yanbo Fan, Xuan Wang, Baoyuan Wu, Yujiu Yang. *ToonTalker: Cross-Domain Face Reenactment.* **CVPR 2023**.

26. Yuan Gong, Youxing Pang, **Xiaodong Cun**, Menghan Xia, Yingqing He, Haoxin Chen, Longyue Wang, Yong Zhang, Xintao Wang, Ying Shan, Yujiu Yang. *Interactive Story Visualization with Multiple Characters.* **SIGGRAPH Asia (Conference Track) 2023**.

27. Ge Yuan, **Xiaodong Cun**, Yong Zhang, Maomao Li, Chenyang Qi, Xintao Wang, Ying Shan, Huicheng Zheng. *Inserting Anybody in Diffusion Models via Celeb Basis.* **NeurIPS 2023**.

28. Yue Ma*, Yingqing He*, **Xiaodong Cun**, Xintao Wang, Ying Shan, Xiu Li, Qifeng Chen. *Follow Your Pose: Pose-Guided Text-to-Video Generation using Pose-Free Videos.* **AAAI 2024**, (**Github 880+ Github Star**).

29. Yingqing He, Shaoshu Yang, Haoxin Chen, **Xiaodong Cun**, Menghan Xia, Yong Zhang, Xintao Wang, Ran He, Qifeng Chen, Ying Shan. *ScaleCrafter: Tuning-free Higher-Resolution Visual Generation with Diffusion Models.* **ICLR 2024 (Spotlight)**.

30. Jinbo Xing, Menghan Xia, Yuxin Liu, Yuechen Zhang, Yong Zhang, Yingqing He, Hanyuan Liu, Haoxin Chen, **Xiaodong Cun**, Xintao Wang, Ying Shan, Tien-Tsin Wong. *Make-Your-Video: Customized Video Generation Using Textual and Structural Guidance.* **IEEE Transactions on Visualization and Computer Graphics, 2024**.

31. Lingmin Ran, **Xiaodong Cun**, Jia-Wei Liu, Rui Zhao, Song Zijie, Xintao Wang, Jussi Keppo, Mike Zheng Shou. *X-Adapter: Adding Universal Compatibility of Plugins for Upgraded Diffusion Model.* **CVPR 2024.**

32. Yuzhou Huang, Liangbin Xie, Xintao Wang, Ziyang Yuan, **Xiaodong Cun**, Yixiao Ge, Jiantao Zhou, Chao Dong, Rui Huang, Ruimao Zhang, Ying Shan. *SmartEdit: Exploring Complex Instruction-based Image Editing with Large Language Models.* **CVPR 2024.**

33. Ziyao Huang, Fan Tang, Yong Zhang, **Xiaodong Cun**, Juan Cao, Jintao Li, Tong-yee Lee. *Make-Your-Anchor: A Diffusion-based 2D Avatar Generation Framework.* **CVPR 2024.**

34. Haoxin Chen, Yong Zhang, **Xiaodong Cun**, Menghan Xia, Xintao Wang, Chao Weng, Ying Shan. *VideoCrafter2: Overcoming Data Limitations for High-Quality Video Diffusion Models.* **CVPR 2024.**

35. Lanqing Guo, Yingqing He, Haoxin Chen, Menghan Xia, **Xiaodong Cun**, Yufei Wang, Siyu Huang, Yong Zhang, Xintao Wang, Qifeng Chen, Ying Shan, Bihan Wen. *Make a Cheap Scaling: A Self-Cascade Diffusion Model for Higher-Resolution Adaptation.* **ECCV 2024.**

36. Qinyu Yang, Haoxin Chen, Yong Zhang, Menghan Xia, **Xiaodong Cun**, Zhixun Su, Ying Shan. *Noise Calibration: Plug-and-play Content-Preserving Video Enhancement using Pre-trained Video Diffusion Models.* **ECCV 2024.**

EXPERIENCES

Research Assistant, IPPR Lab, University of Macau   *Apr. 2016 - Jun. 2021*
Supervised by Dr. Chi-Man Pun
Developing learning-based algorithms in computational photography and low-level vision fields.

Research Intern, Computer Vision Lab, Huawei Noak'Ark Lab   *Mar. 2020 - Nov. 2020*
Supervised by Dr. Jianzhuang Liu
Focusing on the learning-based algorithms for Image Signal Processor (ISP).

Algorithm Intern, Computer Vision Lab, HIKVision Research Institute   *Mar. 2018 - Aug. 2018*
Short internship on network slimming.

Frond-end Software Intern, Alibaba Inc.   *Jun. 2014 - Sep. 2014*

TEACHING EXPERIENCE

Teaching Assitant, Faculty of Science and Technology, **University of Macau**

* Computer Graphics 2016-2017

* Computer Science (Programming) 2017-2018

SKILLS

Languages: Python, Matlab, JavaScript, C
Framework: PyTorch, TensorFlow, Torch
Tools: PhotoShop, Illustrator, LaTeX