
EDUCATION

- 2022 - 2026 **The Hong Kong University of Science and Technology (Guangzhou)**
Ph.D. student in Robotics and Autonomous Systems.
Advisor: Prof. Lei Zhu and Prof. Ping Tan
Research area: low-level vision, image restoration, multi-modal language models, and generative models.
- 2017 - 2021 **The Chinese University of Hong Kong, Shenzhen**
B.ENG. in Computer Science and Engineering. Advisor: Prof. Xiaoguang Han

PUBLICATIONS

- CVPR 2025 **POSTA: A Go-to Framework for Customized Artistic Poster Generation**
Haoyu Chen*, Xiaojie Xu*, Wenbo Li, Jingjing Ren, Tian Ye, Songhua Liu, Ying-Cong Chen, Lei Zhu, Xinchao Wang
- NeurIPS 2024 **RestoreAgent: Autonomous Image Restoration Agent via Multimodal Large Language Models**
Haoyu Chen, Wenbo Li, Jinjin Gu, Jingjing Ren, Sixiang Chen, Tian Ye, Renjing Pei, Kaiwen Zhou, Fenglong Song, Lei Zhu
- CVPR 2024 **Low-Res Leads the Way: Improving Generalization for Super-Resolution by Self-Supervised Learning**
Haoyu Chen, Wenbo Li, Jinjin Gu, Jingjing Ren, Haoze Sun, Xueyi Zou, Youliang Yan, Zhen-song Zhang, Lei Zhu
- CVPR 2023 **Masked Image Training for Generalizable Deep Image Denoising**
Haoyu Chen*, Jinjin Gu*, Yihao Liu, Salma Abdel Magid, Chao Dong, Qiong Wang, Hanspeter Pfister, Lei Zhu
- ICCV 2023 **Snow Removal in Video: A New Dataset and A Novel Method**
Haoyu Chen, Jingjing Ren, Jinjin Gu, Hongtao Wu, Xuequan Lu, Haoming Cai, Lei Zhu
- CVPR 2025 **JarvisIR: Elevating Autonomous Driving Perception with Intelligent Image Restoration**
Yunlong Lin*, Zixu Lin*, **Haoyu Chen***, Panwang Pan*, Chenxin Li, Sixiang Chen, Kairun Wen, YEYING JIN, Wenbo Li, Xinghao Ding
- NeurIPS 2024 **UltraPixel: Advancing Ultra-High-Resolution Image Synthesis to New Peaks**
Jingjing Ren*, Wenbo Li*, **Haoyu Chen**, Renjing Pei, Bin Shao, Yong Guo, Long Peng, Lei Zhu
- CVPR 2024 **CoSeR: Bridging Image and Language for Cognitive Super-Resolution**
Haoze Sun, Wenbo Li, Jianzhuang Liu, **Haoyu Chen**, Renjing Pei, Xueyi Zou, Youliang Yan, Yujiu Yang
- IJCV 2024 **Triplane-Smoothed Video Dehazing with CLIP-Enhanced Generalization**
Jingjing Ren, **Haoyu Chen**, Tian Ye, Hongtao Wu, Lei Zhu
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- ICML 2023 **Crafting Training Degradation Distribution for the Accuracy-Generalization Trade-off in Real-World Super-Resolution**
Ruofan Zhang, Jinjin Gu, **Haoyu Chen**, Chao Dong, Yulun Zhang, Wenming Yang

- arXiv 2024 **Towards Flexible, Scalable, and Adaptive Multi-Modal Conditioned Face Synthesis**
Jingjing Ren, Cheng Xu, **Haoyu Chen**, Xinran Qin, Chongyi Li, Lei Zhu
- ECCV 2020 **PIPAL: a Large-Scale Image Quality Assessment Dataset for Perceptual Image Restoration**
Jinjin Gu, Haoming Cai, **Haoyu Chen**, Xiaoxin Ye, Jimmy S. Ren, Chao Dong
- arXiv 2021 **Attention in Attention Network for Image Super-Resolution**
Haoyu Chen, Jinjin Gu, Zhi Zhang
- arXiv 2018 **Super Resolution Perception for Industrial Sensor Data**
Jinjin Gu, **Haoyu Chen**, Guolong Liu, Gaoqi Liang, Xinlei Wang, Junhua Zhao
- MM 2023 **Cross-scale Prototype Learning Transformer for Image Snow Removal**
Sixiang Chen*, Tian Ye*, Yun Liu, Jinbin Bai, **Haoyu Chen**, Yunlong Lin, Jun Shi, Erkang Chen
- MM 2023 **Mask-Guided Progressive Network for Joint Raindrop and Rain Streak Removal in Videos**
Hongtao Wu, Yijun Yang, **Haoyu Chen**, Jingjing Ren, Lei Zhu
- MM 2023 **Uncertainty-Driven Dynamic Degradation Perceiving and Background Modeling for Efficient Single Image Desnowing**
Sixiang Chen*, Tian Ye*, Chenghao Xue, **Haoyu Chen**, Yun Liu, Erkang Chen, Lei Zhu

RESEARCH EXPERIENCE

- 2025 - 2025 **Adobe**, *Research Intern*
A Unified Autoregressive Multimodal Framework for Interleaved Image-Text Generation.
Supervisor: Zhe Lin.
- 2021 - 2022 **Xiaobing.AI**, *Research Intern*
Audio-driven Talking Face Generation.
Supervisor: Baoyuan Wang.
- 2020 - 2020 **Amazon Web Services (AWS) Shanghai AI Lab**, *Research Intern*
Image and Video Super-Resolution.
Supervisor: Zhi Zhang.

AWARDS & COMPETITIONS

- 2018 **Winner(1st)**, IEEE ICDM 2018 global AI challenge on meteorology
- 2020 **4th**, ECCV 2020 Workshop AIM 2020: Video Extreme Super-Resolution

RESEARCH SERVICE

Conference	Conference on Computer Vision and Pattern Recognition (CVPR), 2024
	European Conference on Computer Vision (ECCV), 2024
	The Neural Information Processing Systems (NeurIPS), 2024
	The International Conference on Learning Representations (ICLR), 2025
	International Conference on Artificial Intelligence and Statistics (AISTATS), 2025
	ACM Multimedia (ACM MM), 2023, 2024
	ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2023
	SIAM International Conference on Data Mining (SDM), 2024
	Winter Conference on Applications of Computer Vision (WACV), 2023, 2024
Journal	IEEE Transactions on Circuits and Systems for Video Technology
	IEEE Transactions on Mobile Computing
	The Computer Vision