

Sixiang Chen

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EDUCATION

- School of Ocean Information Engineering, Jimei University** Xiamen, China
Bachelor of Communication Engineering; July 2019 - June 2023
Courses: Functions of Complex Variable(100/100), Programming Fundamentals(98/100,C language), Mathematical Modeling (96/100,Python/MATLAB language), Advanced Mathematics (92/100), Probability Theory and Mathematical Statistics (96/100).
- Hong Kong University of Science and Technology (Guangzhou)** Guangzhou, China
Research Assistant; August 2023 - August 2024
Research Proposal: Image Restoration, Vision Transformer, Prompt Learning, Diffusion, AIGC.
- Hong Kong University of Science and Technology (Guangzhou)** Guangzhou, China
PhD Student; September 2024 -
Research Proposal: Image Restoration, AIGC, Diffusion, Prompt Learning.

RESEARCH INTEREST

- Perform image restoration under real-world adverse conditions.
- Explore the applications of AIGC (Artificial Intelligence Generated Content) technology.
- Efficient neural network for low-level applications (ViTs, Diffusions, Mambas).

PUBLICATIONS

- **NeurIPS'24: 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. [PDF, Code, Project]
- **ECCV'24: Teaching Tailored to Talent: Adverse Weather Restoration via Prompt Pool and Depth-Anything Constraint** : [Sixiang Chen](#), Tian Ye, Kai Zhang, Zhaohu Xing, Yunlong Lin, Lei Zhu. [PDF, Code, Project]
- **ECCV'24: Semi-Supervised Video Desnowing Network via Temporal Decoupling Experts and Distribution-Driven Contrastive Regularization** : Hongtao Wu, Yijun Yang, Angelica Aviles-Rivero, Jingjing Ren, [Sixiang Chen](#), Haoyu Chen, Lei Zhu. [PDF, Code,]
- **MICCAI'24: Cross-conditioned Diffusion Model for medical image-to-image translation** : Zhaohu Xing, Sicheng Yang, [Sixiang Chen](#), Tian Ye, Lei Zhu. [PDF, Code,]
- **CVPR'24 Highlight: Learning Diffusion Texture Priors for Image Restoration**: Tian Ye, [Sixiang Chen](#), Wenhao Chai, Zhaohu Xing, Jing Qin, Ge Lin, Lei Zhu. [PDF, Code,]
- **ICCV'23: Sparse Sampling Transformer with Uncertainty-Driven Ranking for Unified Removal of Raindrops and Rain Streaks**: [Sixiang Chen](#), Tian Ye[†], Jinbin Bai, Jun Shi, Erkang Chen, Lei Zhu. [PDF, Code, Project]
- **ICCV'23: AWRCP: Reinventing Adverse Weather Removal with Codebook Priors**: Tian Ye[†], [Sixiang Chen](#)[†], Jinbin Bai, Shi Jun, Chenghao Xue, Jingjia Jiang, Junjie Yin, Erkang Chen, Yun Liu. *Co-first author* [PDF, Code]
- **ACM MM'23: 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.
- **ACM MM'23: CPLFormer: 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.
- **ACM MM'23: Sequential Affinity Learning for Video Restoration**: Tian Ye[†], [Sixiang Chen](#)[†], Yun Liu, Wenhao Chai, Jinbin Bai, Wenbin Zou, Yunchen Zhang, jiang mingchao, Erkang Chen, Chenghao Xue. *Co-first author*
- **ACM MM'23: NightHazeFormer: Single Nighttime Haze Removal Using Prior Query Transformer**: Yun Liu, Zhongsheng Yan, [Sixiang Chen](#)^{*}, Tian Ye, Wenqi Ren, Erkang Chen. *Corresponding author*[PDF, Code]
- **Digital Signal Processing: Dual-former: Hybrid Self-attention Transformer for Efficient Image Restoration**: [Sixiang Chen](#), Tian Ye, Yun Liu, Erkang Chen.[PDF]
- **BMVC'23: Five A+ Network: You Only Need 9K Parameters for Underwater Image Enhancement**: Jingxia Jiang[†], Tian Ye[†], Jinbin Bai[†], [Sixiang Chen](#), Wenhao Chai, Jun Shi, Yun Liu, Erkang Chen.[PDF, Code]
- **ICASSP'23: DEHRFormer: Real-time Transformer for Depth Estimation and Haze Removal from Varicolored Haze Scenes**: [Sixiang Chen](#)[†], Tian Ye[†], Jun Shi, Yun Liu, JingXia Jiang, Erkang Chen, Peng Chen. [PDF]
- **ICASSP'23: MSP-Former: Multi-Scale Projection Transformer for Single Image Desnowing**: [Sixiang Chen](#)[†], Tian Ye[†], Yun Liu, Taodong Liao, Jingxia Jiang, Erkang Chen, Peng Chen. [PDF]
- **Displays (Q2): Robust back-scattered light estimation for underwater image enhancement with polarization**: [Sixiang Chen](#), Erkang Chen, Tian Ye, Chenghao Xue. [PDF]

- **ACCV'22: Towards Real-time High-Definition Image Snow Removal: Efficient Pyramid Network with Asymmetrical Encoder-decoder Architecture:** Tian Ye[†], [Sixiang Chen[†]](#), Yun Liu, Yi Ye, Erkang Chen *Co-first author.* [[PDF](#)]
- **ECCV'22 Oral: Perceiving and Modeling Density for Image Dehazing:** Tian Ye, Mingchao Jiang, Yunchen Zhang, Liang Chen, Yun Liu, [Sixiang Chen](#), Erkang Chen. [[PDF](#), [Code](#)]
- **CVPRW'22: Underwater Light Field Retention: Neural Rendering for Underwater Imaging:** Tian Ye[†], [Sixiang Chen[†]](#), Yun Liu, Yi Ye, Erkang Chen, Yuche Li *Co-first author.* [[PDF](#), [Code](#)]

ARXIV PREPRINT

- **Arxiv'22: SnowFormer: Context Interaction Transformer with Scale-awareness for Single Image Desnowing:** [Sixiang Chen[†]](#), Tian Ye[†], Yun Liu, Erkang Chen. [[PDF](#), [Code](#)]
- **Arxiv'24: AGLLDiff: Guiding Diffusion Models Towards Unsupervised Training-free Real-world Low-light Image Enhancement:** Yunlong Lin[†], Tian Ye[†], [Sixiang Chen[†]](#), Zhenqi Fu, Yingying Wang, Wenhao Chai, Zhaohu Xing, Lei Zhu, Xinghao Ding. [[PDF](#), [Code](#)]

RESEARCH SERVICE

- **Reviewer:** CVPR 2022 NTIRE workshop, ACCV 2022, ICRA 2023, ICCV 2023, ACM MM 2023 / 2024, TMM, ECCV 2024, TCSVT, NeurIPS 2024, TITS, ICLR 2025.

SKILLS SUMMARY

- **Languages:** Python, C, JAVA.
- **Frameworks:** Opencv, Pytorch, Numpy.
- **Soft Skills:** Leadership, Science Writing, Independent Thinking.

COLLEGE COMPETITIONS AND AWARDS

- **Outstanding Graduate in Jimei University, 2023.:** Rewarding excellent students during bachelor study.
- **International Third Price, Team Leader:** Mathematical Contest In Modeling, 2022.
- **National Second Prize, Team Leader:** China Undergraduate Mathematical Contest in Modeling, 2021.
- **National Second Prize, Team Leader:** Mathorcup Mathematical Contest in Modeling, 2021.