

# SIXIANG (SIXIANG) CHEN

Ph.D. Student @ HKUST(GZ) ROAS · Generative Models / Reward Modeling / Vision Agents

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## RESEARCH SUMMARY

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Second-year Ph.D. student at HKUST(GZ) ROAS, advised by Prof. Lei Zhu and Prof. Fugee Tsung. My research lies at the intersection of **Generative Models**, **Reward Modeling**, **Vision Agents**, and **Visual Perception**. I build generalized assistants for aesthetic poster creation, design reward models for human-aligned generation, and develop agentic systems for open-world reasoning.

- **Aesthetic Poster Assistants:** Lead the development of **PosterCraft [ICLR 2026]**, which is widely adopted by the community, and **PosterOmni [CVPR 2026]**, which has been deployed for internal industrial applications.
- **Reward Modeling for Design:** Develop **PosterReward [CVPR 2026]** to unlock accurate evaluation signals, significantly boosting ordinary open-source text-to-image models to top-tier aesthetic performance, serving as a core reward model for internal training.
- **Agents & Reasoning:** Explore multimodal agents for adverse-scene understanding and restoration (e.g., **JarvisIR [CVPR 2025]** and **RestoreAgent [NeurIPS 2024]**), focusing on unified reasoning capabilities.
- **Diffusion Priors for Perception:** Leverage diffusion priors for restoration and perception tasks, including **GenHaze [ICCV'25]**, **AGLLDiff [AAAI 2025]**, **DiffWeather [ECCV 2024]** and **DTPM [CVPR 2024 Highlight]**.

## EDUCATION

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### The Hong Kong University of Science and Technology (Guangzhou)

Ph.D. Student, Robotics and Autonomous Systems (ROAS)

Guangzhou, China

Sep. 2024 – Present

- Advisors: Prof. Lei Zhu; Prof. Fugee Tsung.
- Research: Generative Models, Reward Modeling, Vision Agents, Image Restoration.

### Jimei University

B.Eng. in Communication / Telecommunication Engineering

Xiamen, China

Sep. 2019 – Jun. 2023

- Selected coursework: Complex Variable (100/100), C Programming (98/100), Mathematical Modeling (96/100), Probability & Statistics (96/100).
- Advisor: Prof. Erkang Chen. **Awards:** Outstanding Graduate.

## RESEARCH EXPERIENCE

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### The Hong Kong University of Science and Technology (Guangzhou)

Research Assistant, ROAS

Ph.D. Student, ROAS

Guangzhou, China

Jul. 2023 – Aug. 2024

Sep. 2024 – Present

- **Diffusion Priors for Perception:** Leverage diffusion priors for robust restoration and perception tasks, publishing works such as **GenHaze [ICCV'25]**, **AGLLDiff [AAAI 2025]**, **DiffWeather [ECCV 2024]** and **DTPM [CVPR 2024 Highlight]**.
- **Agents & Unified Reasoning:** Develop multimodal agentic systems for adverse-scene understanding and restoration, including **JarvisIR [CVPR 2025]** and **RestoreAgent [NeurIPS 2024]**, focusing on unified reasoning capabilities.

### Meigen-AI, Meituan

Research Scientist Intern (Beidou Talent Program)

Shanghai/Shenzhen, China

Apr. 2025 – Present

- **Aesthetic Poster Generation:** Lead the development of **PosterCraft [ICLR 2026]** (widely adopted by the community) and **PosterOmni [CVPR 2026]** (deployed for internal industrial applications), unifying local edits and global design for high-quality creation.
- **Reward Modeling:** Develop **PosterReward [CVPR 2026]** to unlock accurate evaluation signals for aesthetics and typography, significantly boosting ordinary open-source models to top-tier performance, serving as a core reward model for internal training.

## SELECTED PUBLICATIONS

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**Summary:** Published **20+** papers in top-tier conferences/journals (CVPR, ICCV, ECCV, ICLR, NeurIPS, AAAI, ACM MM), including **11** first-author/co-first-author papers.

\* *Equal Contribution.* ✉ *Corresponding Author*

### First-Author & Co-First-Author Publications

**[CVPR 2026] PosterOmni: Generalized Artistic Poster Creation via Task Distillation and Unified Reward Feedback**  
Sixiang Chen\*, Jianyu Lai\*, Jialin Gao\*, Hengyu Shi\*, Zhongying Liu\*, Tian Ye, Junfeng Luo, Xiaoming Wei, Lei Zhu.

**[CVPR 2026] PosterReward: Unlocking Accurate Evaluation for High-Quality Graphic Design Generation**  
Jianyu Lai\*, Sixiang Chen\*, Jialin Gao\*, Hengyu Shi, Zhongying Liu, Fuxiang Zhai, Junfeng Luo, Xiaoming Wei, Lujia Wang, Lei Zhu.

**[ICLR 2026] PosterCraft: Rethinking High-Quality Aesthetic Poster Generation in a Unified Framework**  
Sixiang Chen\*, Jianyu Lai\*, Jialin Gao\*, Tian Ye, Haoyu Chen, Hengyu Shi, Shitong Shao, Yunlong Lin, Song Fei, Zhaohu Xing, Yeying Jin, Junfeng Luo, Xiaoming Wei, Lei Zhu.

**[Tech Report 2025] An Empirical Study of GPT-4o Image Generation Capabilities**  
Sixiang Chen\*, Jinbin Bai\*, Zhuoran Zhao\*, Tian Ye\*, Qingyu Shi, Donghao Zhou, Wenhao Chai, Xin Lin, Jianzong Wu, Chao Tang, Shilin Xu, Tao Zhang, Haobo Yuan, Yikang Zhou, Wei Chow, Linfeng Li, Xiangtai Li, Lei Zhu, Lu Qi.

**[ICCV 2025] GenHaze: One-step Controllable Haze Generation for Real-World Dehazing**  
Sixiang Chen, Tian Ye, Yunlong Lin, Yeying Jin, Yijun Yang, Haoyu Chen, Jianyu Lai, Song Fei, Zhaohu Xing, Fugee Tsung, Lei Zhu.

**[CVPR 2025] SnowMaster: Comprehensive Real-world Image Desnowing via MLLM with Multi-Model Feedback Optimization**  
Jianyu Lai\*, Sixiang Chen\*, Yunlong Lin, Tian Ye, Yun Liu, Song Fei, Zhaohu Xing, Hongtao Wu, Wei Wang, Lei Zhu.

**[AAAI 2025] 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.

**[ECCV 2024] 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.

**[ICCV 2023] Adverse Weather Removal with Codebook Priors**  
Tian Ye\*, Sixiang Chen\*, Jinbin Bai\*, Shi Jun, Chenghao Xue, Jingjia Jiang, Junjie Yin, Erkang Chen, Yun Liu.

**[ICCV 2023] 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.

**[ACM 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.

**[ACM MM 2023] 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.

### Co-Authored Publications

**[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.  
*IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2025.*

**[CVPR 2025] Detect Any Mirrors: Boosting Learning Reliability with an Iterative Data Engine**  
Zhaohu Xing, Lihao Liu, Yijun Yang, Hongqiu Wang, Tian Ye, Sixiang Chen, Wenxue Li, Guang Liu, Lei Zhu.  
*IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2025.*

**[AAAI 2025] PromptHaze: Prompting Real-world Dehazing via Depth Anything**  
Tian Ye, Sixiang Chen, Haoyu Chen, Wenhao Chai, Jingjing Ren, Zhaohu Xing, Wenxue Li, Lei Zhu.  
*AAAI Conference on Artificial Intelligence (AAAI), 2025.*

**[AAAI 2025] Unsupervised Low-light Image Enhancement with Lookup Tables and Diffusion Priors**  
Yunlong Lin, Zhenqi Fu, Kairun Wen, Tian Ye, Sixiang Chen, Ge Meng, Yingying Wang, Yue Huang, Xiaotong Tu, Xinghao Ding.  
*AAAI Conference on Artificial Intelligence (AAAI), 2025.*

**[NeurIPS 2024] RestoreAgent: Autonomous Image Restoration Agent via Multimodal Large Language Models**  
Haoyu Chen, Wenxue Li, Jinjin Gu, Jingjing Ren, Sixiang Chen, Tian Ye, Renjing Pei, Kaiwen Zhou, Fenglong Song, Lei Zhu.

*Conference on Neural Information Processing Systems (NeurIPS), 2024.*

**[CVPR 2024 Highlight] Learning Diffusion Texture Priors for Image Restoration**

Tian Ye, Sixiang Chen, Wenhao Chai, Zhaohu Xing, Jing Qin, Ge Lin, Lei Zhu.

*IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2024.*

**[ACM MM 2023] Nighthazeformer: Single nighttime haze removal using prior query transformer**

Yun Liu, Zhongsheng Yan, Sixiang Chen<sup>✉</sup>, Tian Ye, Wenqi Ren, Erkang Chen.

*ACM International Conference on Multimedia (ACM MM), 2023.*

**[ECCV 2022 Oral] Perceiving and Modeling Density for Image Dehazing**

Tian Ye\*, Yunchen Zhang\*, Mingchao Jiang\*, Liang Chen, Yun Liu, Sixiang Chen, Erkang Chen.

*European Conference on Computer Vision (ECCV), 2022.*

## HONORS & ACADEMIC SERVICE

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### Honors & Awards

- **Third Place**, NTIRE 2025 Challenge on Day and Night Raindrop Removal (CVPR Workshop)
- **Fifth Place**, NTIRE 2024 Challenge on Low Light Image Enhancement (CVPR Workshop)
- Postgraduate Scholarship of HKUST(GZ), 2024
- Outstanding Graduate, Jimei University, 2023
- International Third Prize (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

### Academic Service

- **Conference Reviewer:** CVPR (2025, 2026), ICCV (2023, 2025), ECCV (2024), NeurIPS (2024, 2025), ICLR (2025, 2026), ICML (2025), AAAI (2025), ACM MM (2023, 2024), ICRA (2023), ACCV (2022).
- **Journal Reviewer:** IEEE TPAMI, IEEE TIP, IEEE TMM, IEEE TCSVT, IEEE TITS.