Jianyu Lai

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Education

- **The Hong Kong University of Science and Technology (Guangzhou)** Sep 2024 - Present
  Degree: *Master of Philosophy in Data Science and Analytics; Supervised by Prof.Lei Zhu*
  Research Focus: *Generative Models, MLLMs, Image Restoration.* ***GPA:3.92/4.3***
- **South China University of Technology** Sep 2020 - Jul 2024
  Degree: *Bachelor of Engineering in Automation*
  Key Courses: *Principles of Microcomputers (4/4), Motor and Drive Foundation (4/4), Probability and Mathematical Statistics (3.7/4), Signal Analysis and Processing (3.7/4), Computer Network and Communication (3.7/4).* ***GPA:3.45/4***

Research Interest

- **Generative Models Post-Training & Application**: Reinforcement Learning, Test-time Scaling and **Reward Modeling** in visual generation; AIGC applications for diverse vertical domains (e.g. Graphic Design, Computational Photography); High Resolution Image Editing and Generation; Video Generation and World Model.
- **Multi-modal Models**: MLLM applications in **image restoration, generation and evaluation**; **Unified Multimodal Models** for Understanding and Generation; Multi-modal agent system.

Publications

- **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✉. [**PDF**, **Website**]
  Summary: Current reward models often fail to capture fine-grained design elements such as typography and layout. To address the scarcity of high-quality preference data, we first establish an automated pipeline leveraging multiple MLLMs to construct preference pairs. Based on this dataset, we propose PosterReward, a multi-stage reward model that can accurately evaluate graphic design, significantly outperforming existing reward models.
- **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✉. [**PDF**, **Website**]
  Summary: Image-to-poster generation couples entity-preserving local editing with concept-driven global creation. To unify these regimes, we propose PosterOmni, which integrates multi-scenario data construction across six tasks, expert knowledge distillation, and Unified Reward Feedback. This pipeline ensures outcomes align with aesthetic preferences, allowing PosterOmni to significantly outperform existing baselines in both fidelity and design quality.
- **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✉. [**PDF**, **Code**, **Website**]
  Summary: Current poster generation methods use modular pipelines that limit visual quality and coherence. We introduces PosterCraft, a unified, end-to-end framework that generates high-quality posters directly from text prompts. It leverages a four-stage cascaded workflow and custom-built datasets to significantly outperform existing baselines, achieving results competitive with leading commercial systems in rendering accuracy, layout, and overall visual appeal.
- **CVPR 2026 | 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, Weiming Wang, Lei Zhu✉. [**PDF**, **Code**, **Website**]
  Summary: To address the limited generalization of current desnowing models caused by their reliance on synthetic data, we introduce RealSnow10K, a large-scale, high-quality annotated dataset of snowfall, alongside a preference dataset featuring 36,000 expert-ranked pairs. Furthermore, we propose the SnowMaster framework, which leverages preference optimization and generative reward feedback for semi-supervised training to significantly enhance snow removal performance in real-world scenarios.

Research Experience

City University of Hong Kong Jan 2026 - Present
- Research Assistant, supervised by Prof.Kede Ma; Developing a multi-modal agent with spatial reasoning capabilities to guide aesthetic photography composition.

Meituan, Meigen-AI Jun 2025 - Feb 2026
- Research Intern, supervised by Jialin Gao; Designing poster generation and editing models, developing vision reward models, and optimizing unified multimodal understanding and generation models.

Skills Summary

- **Languages**: English (IELTS 7.0 & CET-6 576), Chinese (Native).
- **Frameworks**: Transformers, Diffusers, Pytorch, Opencv, Onnxruntime.
- **Program Languages**: Python, C++, C.