

Xin Lin

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Education

Sichuan University

B.Eng. in Electronics and Information Engineering

Chengdu, CHINA

2021.9–2025.6

University of California San Diego

Ph.D. in Electrical and Computer Engineering, Advisor: Truong Nguyen

La Jolla, CA, USA

2025.9 – 2028.06 (expected)

Research Experience

Adobe Research

Research Scientist Intern: Pixel diffusion

Advisor: Dr. Zhifei Zhang and Dr. Zhe Lin

June 2026 – September 2026

Insta360

Research Scientist Intern: Panoramic vision

Advisor: Dr. Dizhe Zhang and Prof. Lu Qi

April 2025 – August 2025

UC Merced

Research Intern (Remote)

Advisor: Prof. Ming-Hsuan Yang

June 2023 – April 2025

Publications (* indicates equal contribution.)

1. **Adversarial Training for Pixel Diffusion** [paper]
Xin Lin, Zhifei Zhang, Yuqian Zhou, Haitian Zheng, Zhe Lin, Ming-Hsuan Yang, Truong Nguyen
arXiv.
2. **DMA²: Pixel-space Distribution Matching with Adversarial and Anchor Losses** [paper]
Xin Lin, Zhifei Zhang, Yuqian Zhou, Haitian Zheng, Shaoteng Liu, Lehan Yang, Zhe Lin, Ming-Hsuan Yang, Truong Nguyen
arXiv.
3. **Depth Any Panoramas: A Foundation Model for Panoramic Depth Estimation** [paper] [Project]
(★ 372 GitHub stars)
Xin Lin, Meixi Song, Dizhe Zhang, Wenxuan Lu, Haodong Li, Bo Du, Ming-Hsuan Yang, Truong Nguyen, Lu Qi
CVPR 2026.
4. **PixelControl: Fine-Grained Condition Fidelity in Text-to-Image Diffusion** [paper] [Project]
Xin Lin, Haodong Li, Zhifei Zhang, Yutong Yang, Haitian Zheng, Juanxi Tian, Zhe Lin, Truong Nguyen
WACV 2027.
5. **D²GS: Depth-and-Density Guided Gaussian Splatting for Stable and Accurate Sparse-View Reconstruction** [paper] [Project]
Meixi Song*, Xin Lin*, Haodong Li, Dizhe Zhang, Xiangtai Li, Bo Du, Lu Qi
ICLR 2026
6. **OmniRoam: World Wandering via Long-Horizon Panoramic Video Generation** [paper] [Project]
Yuheng Liu, Xin Lin, Xinke Li, Baihan Yang, Chen Wang, Kalyan Sunkavalli, Yannick Hold-Geoffroy, Hao Tan, Kai Zhang, Xiaohui Xie, Zifan Shi, Yiwei Hu
SIGGRAPH 2026.
7. **PanoWorld: Towards Spatial Supersensing in 360 Panorama World** [paper] [Project]
Changpeng Wang, Xin Lin, Junhan Liu, Yuheng Liu, Zhen Wang, Donglian Qi, Yunfeng Yan, Xi Chen
NeurIPS 2026.
8. **HQGS: High-Quality Novel View Synthesis with Gaussian Splatting in Degraded Scenes** [paper]
Xin Lin*, Shi Luo*, Xiaojun Shan, Xiaoyu Zhou, Chao Ren, Lu Qi, Ming-Hsuan Yang and Nuno Vasconcelos.
ICLR 2025.
9. **SLER-IR: Spherical Layer-wise Expert Routing for All-in-One Image Restoration** [paper]
PENG Shurui*, Xin Lin*, Shi Luo*, Jincen Ou, Dizhe Zhang, Lu Qi, Truong Nguyen, Chao Ren
ECCV 2026.
10. **Re-boosting Self-Collaboration Parallel Prompt GAN for Unsupervised Image Restoration** [paper]
Xin Lin*, Yuyan Zhou*, Jingtong Yue, Chao Ren, Kelvin C.K. Chan, Lu Qi, Ming-Hsuan Yang.
TPAMI 2025.

11. **Dual Degradation Representation for Joint Deraining and Low-Light Enhancement in the Dark** [paper]
Xin Lin*, Jingtong Yue*, Sixian Ding, Chao Ren, Lu Qi and Ming-Hsuan Yang.
TCSVT 2024.
12. **Unsupervised Image Denoising in Real-World Scenarios via Self-Collaboration Parallel Generative Adversarial Branches** [paper]
Xin Lin, Xiao Liu, Jie Huang, Chao Ren and Yinjie Lei.
ICCV 2023.
13. **One Flight Over the Gap: A Survey from Perspective to Panoramic Vision** [paper]
Xin Lin*, Xian Ge*, Dizhe Zhang, Zhaoliang Wan, Xianshun Wang, Xiangtai Li, Wenjie Jiang, Bo Du, Dacheng Tao, Ming-Hsuan Yang, and Lu Qi.
Submitted to CSUR.
14. **Roburcdet: Enhancing Robustness of Radar-Camera Fusion in Bird's Eye View for 3d Object Detection** [paper]
Jingtong Yue*, Zhiwei Lin*, **Xin Lin***, Xiaoyu Zhou, Xiangtai Li, Lu Qi, Yongtao Wang, and Ming-Hsuan Yang.
ICLR 2025.
15. **Dual-Representation Interaction Driven Image Quality Assessment with Restoration Assistance** [paper]
Jingtong Yue, **Xin Lin**, Ziji Yang, and Chao Ren.
WACV 2025.
16. **DA²: Depth Anything in Any Direction** [paper]
Haodong Li, Wangguandong Zheng, Jing He, Yuhao Liu, **Xin Lin**, Xin Yang, Ying-Cong Chen, and Chunchao Guo.
ICLR 2026.
17. **Learning Video Dynamics with Predictive Differentiable Rendering** [paper]
Yujin Tang, Tian Zhou, **Xin Lin**, Cheng Tan, Yifan Hu, Rong Jin, SouYoung Jin, and Liang Sun
ECCV 2026.
18. **Restore Anything with Masks: Leveraging Mask Image Modeling for Blind All-in-one Image Restoration** [paper]
Chu-Jie Qin, Rui-Qi Wu, Zikun Liu, **Xin Lin**, Chun-Le Guo, Hyun Hee Park, and Chongyi Li
ECCV 2024.

Awards

Jacobs Fellowship; UCSD, USA.

SenseTime Scholarship; 25 Talented undergraduates in China.

National Scholarship; (Top 0.2% nationwide, highest scholarship in China).

Top 10 Students in Sichuan University; (10/60,000+).

Chinese Mathematics Competitions first prize; (Top 0.08% in Sichuan province).