

RESEARCH INTERESTS: EVENT-BASED VISION

My research focuses on reconstructing imaging systems to make them more efficient. Currently, I aim to develop a series of imaging algorithms that address challenges faced by traditional cameras, *e.g.*, ISP [3,10], HDR [9], low-light enhancement [3], deblurring [1,6], frame interpolation [2,5,11], rolling shutter correction [1,12], and super-resolution [5]. Looking ahead, my broader goal is to create a fully integrated imaging system, starting with joint optimization at the sensor design and imaging algorithms.

EDUCATION

- **Hong Kong University of Science and Technology (Guangzhou)** Guangzhou, China
Ph.D., AI Thrust, supervised by Prof. Hui XIONG (Fellow of AAAS and IEEE) 01/2022 – 06/2025 (expected)
- **University of Chinese Academy of Sciences** Beijing, China
Master Degree, School of Artificial Intelligence, supervised by Prof. Jun XIAO 09/2017 – 07/2020
- **INRIA and Université Paris-Saclay** Paris, France
Summer School Student, Computer Science, supervised by Prof. Jing-Rebecca LI 07/2019 – 08/2019
- **Nanjing University of Science and Technology** Nanjing, China
Bachelor Degree, School of Computer Science 09/2013 – 06/2017

PUBLICATION LIST ([GOOGLE SCHOLAR LINK](#))

1. Yunfan LU, Guoqiang Liang, Yusheng Wang, Lin Wang, Hui Xiong; **UniINR: Unifying Spatial-Temporal INR for RS Video Correction, Deblur, and Interpolation with an Event Camera**, *ECCV 2024*
2. Zipeng Wang, Yunfan LU, Lin Wang; **Revisit Event Generation Model: Self-Supervised Learning of Event-to-Video Reconstruction with Implicit Neural Representations**, *ECCV 2024*
3. Yunfan LU, Yijie Xu, Wenzong MA, Weiyu Guo, Hui Xiong; **Event Camera Demosaicing via Swin Transformer and Pixel-focus Loss**, *CVPRW 2024*
4. Guoqiang Liang, Kanghao Chen, Hangyu Li, Yunfan LU, Lin Wang; **Towards Robust Event-guided Low-Light Image Enhancement: A Large-Scale Real-World Event-Image Dataset and Novel Approach**, *CVPR 2024*
5. Yunfan Lu, Zipeng Wang, Minjie Liu, Hongjian Wang, Lin Wang; **Learning Spatial-Temporal Implicit Neural Representations for Event-Guided Video Super-Resolution**, *CVPR 2023*
6. Yusheng Wang, Yunfan Lu, Ye Gao, Lin Wang, Zhihang Zhong, Yinqiang Zheng, Atsushi Yamashita; **Efficient video deblurring guided by motion magnitude**, *ECCV 2022*
7. Yunfan Lu, Yifan Hu, Jun Xiao, Lupeng Liu, Long Zhang, Ying Wang; **Three-Dimensional Model of the Moon with Semantic Information of Craters Based on Chang' e Data**, *Sensors 2021*
8. Yunfan Lu, Yifan Hu, Jun Xiao; **Help LabelMe: A fast auxiliary method for labeling image and using it in ChangE' s CCD data**, *Image and Graphics International Conference, ICIG 2019*

UNDER REVIEW LIST ([GOOGLE SCHOLAR LINK](#))

9. Yunfan LU, Xiaogang Xu, Hao LU, Yanlin Qian, Bin Yang, Junyi Li, Qianyi Cai, Weiyu Guo, Hui Xiong; **SEE: See Everything Every Time - Broader Light Range Image Enhancement via Events**, *underreview*
10. Yunfan LU, Yanlin Qian, Ziyang Rao, Junren Xiao, Hui Xiong; **RGB-Event ISP: The Dataset, Benchmark and Direction**, *underreview*

11. **Yunfan LU**, Zipeng Wang, Yusheng Wang, Hui Xiong; **HR-INR: Event-guided Continuous Space-Time Video Super-Resolution via Holistic-Regional Implicit Neural Representations**, *underreview*
12. **Yunfan LU**, Guoqiang Liang, YiranShen, Lin Wang; **Remember Good Moment: Streaming Slow Motion from a Multi-Sensor-equipped UAV in Virtual Reality**, *underreview*
13. **Yunfan Lu**, Yiqi Lin, Hao Wu, Yunhao Luo, Xu Zheng, Hui Xiong, Lin Wang; **Priors in Deep Image Restoration and Enhancement: A Survey**, *underreview*
14. Pengyuan Zhou, Jinjing Zhu, Yiting Wang, **Yunfan Lu**, Zixiang Wei, Haolin Shi, Yuchen Ding, Yu Gao, Qinglong Huang, Yan Shi, Ahmad Alhilal, Lik-Hang Lee, Tristan Braud, Pan Hui, Lin Wang; **Vetaverse: Technologies, applications, and visions toward the intersection of metaverse, vehicles, and transportation systems**, *underreview*

SCHOLARSHIPS AND HONOURS

1. Scholarship of Summer School by INRIA and Institut Français in 2019
2. **National Scholarship** for 2018 academic year (**Top 0.8%**)
3. **Silver Medal**, The ACM-ICPC Asia Regional Contest 2017 Beijing Site (rank: 34/168)
4. **Bronze Medal**, The CCF-CCPC China Contest 2017 Qianhuangdao Site (rank: 51/276)
5. **First Prize**, LanQiao Cup JiangSu Province 2016 Contest (rank: 8/467)
6. **Bronze Medal**, The Programming World Cup Final by SaiKr (rank: 31/201)

WORK EXPERIENCE

- **HKUST GZ, Teaching Assistant** GuangZhou, China
*Assisted in courses, **Data Mining** and **Autonomous AI**.* *09/2023 - 12/2024*
- **HONOR, Senior Algorithm Engineer** Beijing, China
Sensor and Algorithm Solutions Department, Led by Dr. Ye GAO *04/2021 - 01/2022*
- **DJI, Algorithm Engineer** ShenZhen, China
Machine Learning Department, Led by Dr. MengLong ZHU *07/2020 - 04/2021*
- **Detect the impact crater and rebuild the lunar, Master Thesis Research** Beijing, China
Artificial Intelligence Institute in UCAS *02/2019 - 06/2020*
- **Tencent, Research Intern** Beijing, China
Multimedia Laboratory in Tencent, Lead by Dr. Shan LIU *09/2018 - 04/2019*

PROGRAMMING SKILLS

- **Languages:** C/C++, Java, Python, Bazel/CMake, Matlab, HTML CSS JavaScript
- **Technologies:** CUDA, PyTorch, MxNet, TensorFlow, LaTeX, Mediapipe