

Tianyang Feng

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Education

Tongji University

B.ENG. IN OPTOELECTRONIC INFORMATION SCIENCE AND ENGINEERING

Shanghai, China

Sep. 2020 - Jun. 2024

Publications (* equal contribution)

Edge Accelerated Reconstruction Using Sensitivity Analysis for Single-lens Computational Imaging

Xuquan Wang*, Tianyang Feng*, Yujie Xing*, Ziyu Zhao, Xiong Dun, Zhanshan Wang, Xinbin Cheng

Advanced Imaging, 2025, 2(3): 031001

Experience

Institute of Precision Optical Engineering, Tongji University

Shanghai, China

RESEARCH ASSISTANT, ADVISED BY **PROF. XIONG DUN**

Aug. 2024 - Present

- Focusing on the topic of *Edge Accelerated Reconstruction Using Sensitivity Analysis for Single-lens Computational Imaging* as the team leader, in which we propose a new model compression strategy with better performance in reconstruction quality and speed.
- Responsible for all the research cycle, including model design, training, development of compression algorithms, performance verification, and co-authoring the paper with the supervisor.
- Proved that among the algorithms currently capable of being deployed at the edge, the simultaneous application of pruning and quantization achieves a balance between high restoration metrics (PSNR, SSIM) and speed metrics (FPS) in the field of image reconstruction.

Projects

Full-process Development & Deployment of Infrared Computational Imaging

DESIGNER, DEVELOPER, TEAM MEMBER OF 4

Aug. 2024 - Feb.2025

- Developed an infrared computational imaging camera that utilizes a self-designed meta-surface lens in conjunction with existing sensors and chips. Leveraged computational power to replace complex optical structures to build a lightweight imaging system.
- Focused on the design, training, compression, and deployment of algorithms, as well as the development of imaging, display, recognition, and other applications on edge devices (Jetson, RK3588).
- This infrared imaging system is lighter and provides clearer images than traditional optical systems. It integrates YOLO into the network for target recognition, making it suitable for various aircraft.

Skills

Programming	Python, C/C++, MATLAB, \LaTeX
Frameworks & Tools	Pytorch, Linux, Git, Vim, Docker
Languages	Chinese (native), English (fluent)