Qixiang Wang

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Education

- **Nanjing University of Aeronautics and Astronautics** *Sept. 2022-Jun. 2025*
  Master of Electrical engineering
- **Kunming University of Science and Technology** *Sept. 2017-Jul. 2021*
  Bachelor of Rail transit signaling and control

Publication

Blind multi-Poissonian image deconvolution with sparse log-step gradient prior
Wende Dong, Qixiang Wang, Shuyin Tao, Chao Tian
Optics Express Vol. 32, Issue 6, pp. 9061-9080 (2024)

Academic Experience

- **Signal enhancement and physical augmentation framework based on Reinforcement Learning** *Mar.2024–Present*
  UNC Charlotte
  - Designing and verifying a signal enhancement and physical augmentation framework based on Reinforcement Learning, which will not only enhance the generalization of the model and solve many unseen activities of the dataset, but also add real physical constraints of the human body through reinforcement learning methods.
- **Plug -and-play physics-based optimization** *Oct.2023–March.2024*
  UNC Charlotte
  - Design a plug -and-play physics-based optimization module according to the physical characteristics of human movement
  - Module can refined the point cloud data collected by millimeter-wave radar based on the characteristics of human movement to meet the physical constraints
- **Blind multi-Poissonian image deconvolution with sparse log-step gradient prior** *Sept.2023–Dec.2023*
  Nanjing University of Aeronautics and Astronautics
  - Design a novel sparse log-step gradient prior which adopts a mixture of logarithm and step functions to regularize the image gradients and combine it with the Poisson distribution to formulate the blind multi-image deconvolution problem.
  - Incorporate the methods of variable splitting and Lagrange multiplier to convert the original problem into sub-problems.
  - Design a non-blind multi-image deconvolution algorithm which is based on the log-step gradient prior to reach the final restored image.
- **Deep learning model deployment based on NVIDIA Jetson AGX Orin** *Jan.2023-Sept.2023*
  Nanjing University of Aeronautics and Astronautics
  - Organized merchandise from numerous clients preparing them to be shot in photo studio.
  - Build an end-to-end dehazing network based on the SwinTransformer model under the GAN architecture, and conduct training and verification on the dehazing data set.
  - Reduce the amount of model parameters and calculations through cheap convolution, network clipping, model quantification and other model lightweight technologies.
  - Combine the defogging network with the YOLOv5 target The target detection network is deployed on NVIDIA edge computing devices.

Awards

- **First-class academic scholarship** Nanjing University of Aeronautics and Astro- nautics *2023*
- **Second prize national mathematical modeling competition** *2021*
- **Outstanding graduate student** Kunming University of Science and Technology *2021*