Yifan Wang

[Homepage]

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Summary

I am an undergraduate student from Xi'an Jiaotong University. My major is computer science and technology. I am interested in the application of machine learning, especially inverse imaging problems in computer vision. I hope to further make better results in the field of computer vision.

Education Background

Xi'an Jiaotong University   Sep 2020 – June 2024 (expected)
- School of Computer Science and Technology, Faculty of Electronic and Information Engineering
- Major: Computer science and technology
- GPA: **93.1(91.1+2)/100**
- Rank: **6/196, top 3%**
- CET6: 521

Awards and Scholarship

2020 – 2021	**National Scholarship**
2021 – 2022	**National Scholarship**

2021 China Undergraduate Mathematical Contest in Modeling First Prize in Shaanxi Province
2022 Mathematical Contest In Modeling Meritorious Winner
2022 China Undergraduate Mathematical Contest in Modeling Second Prize in Shaanxi Province

Work Experience

During my undergraduate studies, I participated in two periods of low-level computer vision research. My work focused on the unsupervised learning methods for inverse problems in imaging.

HSI Denoising via Asymmetric Noise Modeling Deep Image Prior   2022.9 - 2023.2

Based on the observation that real-world hyperspectral image (HSI) noise exhibits heavy-tailed and asymmetric properties, I modeled the HSI noise of each band using an asymmetric Laplace distribution. I proposed the asymmetric Laplace noise modeling deep image prior for HSI mixed noise removal, publishing a first-author papers in the process.   Advisor: Prof. Shuang Xu

Deep Gradient Prior for Inverse Imaging Problems   2023.3 - Present

To handle the loss of high-frequency structural information captured by deep image prior, we proposed a novel method (namely, deep gradient prior) which should be the first attempt to utilize deep prior in the gradient domain. It does well in vision data denoising and inpainting. Furthermore, when incorporating with low-rank property, our methods outperform state-of-the-arts in various task including HSI denoising, HSI inpainting, multi-temporal multispectral image decloud, and video background modeling.   Advisor: Prof. Shuang Xu and Prof. Deyu Meng

Publications

Yifan Wang, Shuang Xu*, Xiangyong Cao, Qiao Ke, Teng-Yu Ji and Xiangxiang Zhu "Hyperspectral Denoising Using Asymmetric Noise Modeling Deep Image Prior," [Link]