

IET Computer Vision

Call for Papers



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Special Issue on:

Advanced Image Restoration and Enhancement in the Wild

Image restoration and enhancement has always been a fundamental task in computer vision and is widely used in numerous applications, such as surveillance imaging, remote sensing, and medical imaging. In recent years, remarkable progress has been witnessed with deep learning techniques. Despite the promising performance achieved on synthetic data, compelling research challenges remain to be addressed in the wild. These include: (i) degradation models for low-quality images in the real world are complicated and unknown, (ii) paired low-quality and high-quality data are difficult to acquire in the real world, and a large quantity of real data are provided in an unpaired form, (iii) it is challenging to incorporate cross-modal information provided by advanced imaging techniques (e.g., RGB-D camera) for image restoration, (iv) real-time inference on edge devices is important for image restoration and enhancement methods, (v) it is difficult to provide the confidence or performance bounds of a learning-based method on different images/regions. This special issue invites original contributions in datasets, innovative architectures, and training methods for image restoration and enhancement to address these and other challenges.

Topics of interest include, but are not limited to:

- New real-world datasets for image restoration and enhancement, including super-resolution, denoising, deblurring, deraining, dehazing, desnowing, and low-light enhancement.
- Degradation modeling and synthesis for real-world images.
- Unsupervised/Self-supervised methods for real-world image restoration and enhancement.
- Novel methods for real-world image restoration and enhancement using advanced imaging techniques, including stereo camera, light field camera, event camera, RGB-D camera, and hyperspectral camera.
- Computationally efficient methods for real-world image restoration and enhancement.
- Explainable learning-based methods for real-world image restoration and enhancement.

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