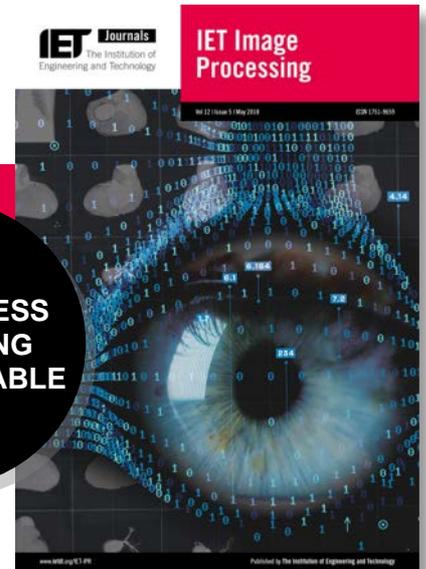


IET Image Processing Call for Papers

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SPECIAL ISSUE ON: Adversarial Learning in Image Processing

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Generative Adversarial Networks (GANs) have shown promising performance for a variety of image processing tasks such as image generation, image super-resolution, image derain, image denoise, image dehaze and image deblur. The basic idea of GANs is transforming the white noise (or other specified prior) through a parametric model to generate candidate samples with the help of a discriminator and a generator. By optimising a minimax two-player game, the generator aims to learn the training data distribution and the discriminator aims to judge that a sample comes from the training data or the generator. GANs offer an effective way to learn a one-to-one mapping but have also faced a large number of challenges, for example, difficulty in training, ignoring the problem-specific prior and domain knowledge, and poor interpretability in structure and result.

While GANs and Variational Autoencoders (VAEs) have achieved huge success in various fields, there remain challenges on how to improve the convergence speed and how problem-specific prior and domain knowledge are formulated into the design of adversarial learning.

This Special Issue serves as a forum for researchers to discuss their work and recent advances in theory, algorithm, and application with the latest adversarial learning in image processing. We welcome submissions addressing both novel theoretical works and prior modelling process, and real-world applications.

Topics of interest include, but are not limited to:

- Theoretical understanding in the working mechanism of GANs/VAEs/PixelRNN
- Theoretical connections between GANs and other models, such as VAEs
- Problem or domain specified adversarial learning or deep neural networks
- Adversarial learning based image classification, clustering, regression etc.
- Unsupervised deep neural network and its applications in image processing
- Various applications of adversarial learning for image processing, e.g. image restoration and enhancement, segmentation, tracking, medical image analysis, multimedia analysis, etc.

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