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HIGHLY EFFICIENT SATELLITE IMAGERY DENOISING TECHNIQUE USING DEEP  
CONVOLUTIONAL NEURAL NETWORK

**Abstract**

Satellite imagery is considered a powerful tool to map and monitor natural and man-made resources changes globally. Satellite images are subjected to various types of noise, which may occur during transmission and acquisition. The appearance of noise affects the quality of the images by restricting the image analysis, classification, object detection, etc. This paper proposes a denoising technique using deep convolutional neural network (DCNN) capable of removing noise from satellite images. Various quality indices such as Structure Similarity Index Measurement (SSIM) and Peak Signal to Noise Ratio (PSNR) are used to assess the performance of the proposed denoising prototype. Our experimental results reveal that the proposed denoising algorithm is highly superior to the other state-of-the-art methods.