

QCARNet: Networks for Quality-Adaptive Compression Artifact

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Abstract : We propose a convolution neural network (CNN) for quality adaptive compression artifact reduction named QCARNet. The proposed method is different from the existing discriminative models that learn a specific model at a certain quality level. The method is composed of a quality estimation CNN (QECNN) and a compression artifact reduction CNN (CARCNN), which are two functionally separate CNNs. By connecting the QECNN and CARCNN, each CARCNN layer is able to adaptively reduce compression artifacts and preserve details depending on the estimated quality level map generated by the QECNN. We experimentally demonstrate that the proposed method achieves better performance compared to other state-of-the-art blind compression artifact reduction methods.

Keywords : compression artifact reduction, deblocking, image denoising, image restoration

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