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| Title | Tripartite sub-image histogram equalization for slightly low contrast gray-tone image enhancement | | |
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| Abstract |  |
| In this paper, a neoteric tripartite sub-image histogram equalization method is proposed to enhance slightly low contrast gray-tone images, which is a less explored area in the literature. An image is decomposed into three sub-images to preserve its mean brightness, and the histograms of the sub-images are calculated. Then, the snipping procedure is applied to each histogram to constrain the pace of contrast enhancement. Subsequently, the equalization of the three histograms is performed independently, and finally, the three equalized sub-images are composed into a single image. The proposed method offers better outcomes as compared to several common and state-of-the-art histogram equalization-based methods regarding contrast improvement, blind/reference-less image spatial quality evaluator, mean brightness preservation, peak signal-to-noise ratio, mean structural similarity, gradient magnitude similarity deviation, feature similarity, bit-plane to bit-plane similarity, and visual image quality. | |