Healthcare Image Fusion Based on the Dragon Cluster Method and Enhanced Vision Decomposition

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ABSTRACT

Clinical diagnosticsnow has useable applications thanks to medical image fusion. The poor quality of the images being used, however, continues to be a concern for image fusion methods. The original photos may have phenomena like noise or poor contrast, which greatly lowers the level of detail of the synthesized image. The majority of the current image creation algorithms fail to fully concentrate on addressing the image quality issue. As a result, noisy or low-contrast input images will have a major impact on the final image synthesis. This study suggests a brand-new picture synthesis technique that works effectively even with noisy or low-contrast input images. First, we provide a brand- new image enhancing method that concentrates on addressing the issue of noise or poor contrast in the input image. Then, using the adaptive parameters gleaned from the suggested picture improvement approach, we provide a way to divide the image into 3 enhanced layers. With the help of this image decomposition technique, high- frequency or frequencies low layers are created from the input medical images. Finally, using the Prewitt compasses operator (SLE_PCO), high-energy layers are synthesized using the CSA approach, and low-frequency layers utilizing the sum of local energy functions. Medical image synthesis, different imaging enhancement techniques, and 128 medical images were all used for assessment and comparison. Our image enhancing technique performs effectively with chaotic and low-contrast images, according to experimental data.

Keywords: CSA, Rainbow Cluster Algorithm, TLID

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