Multimodal Image Fusion based on Hybrid of Hilbert Transform and Intensity Hue Saturation using Fuzzy

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Abstract

A fused image was produced from the Standard Image Fusion in that in every source image from a set of pixels in which every pixel is established. Several mechanisms of image fusion have been detected which is useful to fuse the images and the resultant image is much meaningful. In existing work, this has been seen that in the case of Position Emission Tomography (PET) images the traditional technique is not able to give the informative output due to the presence of a non-informative part of the information in the data. So, when these images are further fused with MRI images then it will affect the final output. Another limitation is the lack of optimization approach as existing traditional approach have low solving precision, bad local searching ability, and slow convergence. This creates a need of proposing a new approach in which a combination of 2-d Hilbert transform and Intensity Hue Saturation method is used for fusing the images. In traditional pixel-level mechanisms an addition, subtraction, multiplication, and weighted average are used that are easy and minimally accurate. The Intensity Hue Saturation method is also popular for image fusions due to its ability to give a high resolution of images. Then, the region of interest extraction approach is applied to PET images.
that remove its drawback of having irrelevant information. Further, the Gray wolf optimization approach is applied to the outcome for more accurate results.

References


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Index Terms

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Keywords

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2-D Hilbert transform