## Comparative Study of Medical Image Enhancement using Hamacher and Dombi T-conorms

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## ABSTRACT

Image enhancement plays an important role not only in medical imaging but also in many other fields where we are interested in collecting crucial information and the image is not supportive of extracting it directly. Image enhancement becomes very essential in the case of medical images, which suffer from noise, blurriness, and poor contrast. In the present work, the focus is to enhance medical images so that fruitful information is extracted that helps to diagnose the correct disease and provide the appropriate treatment to the patient. In the context of the current objective, the contaminated medical images are enhanced using Hamacher and Domi T-conorms for different values of alpha. For the efficacy of the proposed study, quantitative evaluation is performed in terms of PSNR, AMBE, REC, SSIM, PL, and entropy metrics. Through experiments, it has been observed that the value of alpha, and for higher values of alpha, the Dombi operator gives satisfactory results. Similar behaviour is also observed through the visualisation of enhanced images.

Keywords: Dombi T-conorm; Hamacher T-conorm; Medical images

## How to Cite

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