Comparison of Discrete Wavelet and Discrete Cosine Transform for Enhancement of Gray Image

Nivedita V. Hippalgaonkar (Deshmukh)
Faculty, Department of E & TC
P. C. Polytechnic, Nigdi, Maharashtra, India
niv.desh@gmail.com

Abstract: *In this paper comparison of Discrete Wavelet and Discrete Cosine Transform for contrast enhancement of gray image is discussed and implemented using proposed mask. The technique converts the image into DCT domain and the DCT coefficients are modified using proposed mask then the enhanced image is reconstructed using inverse DCT. After comparing enhancement based on DCT with enhancement based on wavelet transform I found that the discrete cosine transform outperforms with better image quality and with highest PSNR value.*

Keywords: Discrete Wavelet transform, Discrete cosine transform

REFERENCES

[1]. IEEE image processing 2001; 10 (3):367-82.Transform-based image enhancement algorithms with performance measure by Agaian s s, Panetta K, Grigoryan AM.

[2]. The 2nd International Conference From Scientific Computing to Computational Engineering 2nd IC-SCCE Athens, 5-8 July, 2006 Madoukas Theodore1, Athanasiadis Emmanouil2, Bougioukos Panagiotis2, Kalatzis Ioannis1, Dimitropoulos Nikos3 and Cavouras Dionisis1 ,"Performance Evaluation of A-trous Wavelet based Filters for enhancing Digital Mammography Images".

[3]. The International Journal of Computer Applications (0975 – 8887) Volume 35– No.7, December 2011 a paper was published on "Satellite Image Contrast Enhancement using Multiwavelets and Singular Value Decomposition (SVD)".

[4]. The World Academy of Science, Engineering and Technology 79, 2011 ,"Enhancement of Low Contrast Satellite Images using Discrete Cosine Transform and Singular Value Decomposition "by A. K. Bhandari, A. Kumar and P. K. Padhy.

[5]. The International Journal of Computer Applications (0975 – 8887) Volume 35– No.7, December 2011 a paper was presented by Sulochana S and Vidhya R on Satellite Image Contrast Enhancement using Multiwavelets and Singular Value Decomposition (SVD).

[6]. The Optica Applicata, Vol. XLI, No. 1, 2011 " Comparison of wavelet, Gabor and curvelet transform for face recognition" by Jtulong Zhang, Yinghui Wang, Zhyui Zhang, Chunli Xia Computer Science and Engineering School, Xian University of Technology, Xi'an, 710048, P.R. China.