330. IMAGE DE-NOISING BASED ON MEDIAN, WIENER FILTERING AND QUANTIZATION MATRIX ESTIMATION USING HGFNN FOR JPEG ERROR ANALYSIS

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The recognition of JPEG compression plays a significant part in digital forensics. Earlier, JPEG image can be compressed upto n times ,but major issue of the work noises in the JPEG images are not removed which in turn to reduce image compression result for JPEG images. To overcome these problems and remove noises from JPEG image samples, hybrid median and Wiener filtering (HMWF) method is applied which combines the procedure of median and Wiener filtering framework for image denoising. Noises presented the image samples is removed by using median filtering methods ,but it not removes impulse noises sufficiently this problem is solved by using Wiener filtering method .The proposed work noises is done by using hybrid filtering method. Further reduce the size of the JPEG image after image denoising; a Growcut based seam covering technique (GCSC) is employed. For the purpose of assessing the influence of image compression for JPEG image samples, Discrete Cosine Transform-Singular Value Decomposition (DCT-SVD) was computed for single and double image compression, images were quantized through quantization matrices, and measured quantization matrix results using Hybrid Genetic Fuzzy Neural Network (HGFNN). Extensive experiments is done for proposed DCT-SVD- HGFNN scheme can discover the double JPEG compression efficiently and it is compared with earlier existing methods, it has extremely much significance in the field of digital forensics .The noises in the image samples are eliminated using HMWF methods, it is measured based on the parameters like, Peak Signal to noise Ratio (PSNR) and Mean Square Error (MSE).

Keywords: Fuzzy neural network (FNN) and Error analysis, Discrete Cosine Transform (DCT), Image Denoising, Filtering, median filtering ,Wiener filtering , Image Resizing, Growcut Seam Covering (GCSC), JPEG Image Compression, Singular Value Decomposition (SVD), Hybrid Genetic Fuzzy Neural Network (HGFNN) .

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