CHAPTER VIII

CONCLUSION

Image compression techniques are becoming very vital in areas like pattern recognition, image processing, system modeling, data mining, etc. This research proposes three novel techniques using neural network for effective image compression. Wavelet-Modified Single Layer Linear Forward Only Counter Propagation Network is used in first proposed approach. This research uses effective neural network technique and training algorithms for better performance. Learning algorithms such as Modified Levenberg-Marquardt Method and Modified ELM which combines AHP technique is used in this research.

The performance of the proposed approaches is evaluated on the basis of Peak Signal-to-Noise Ratio (PSNR), Mean Squared Error (MSE) and Execution time. The performance is evaluated on several standard images like Lena, Cameraman, Peppers, Baboon and Crowd. From the experimental results, it is observed that the proposed methods attain effective PSNR values than the existing technique. Moreover, the MSE values and the visual quality of the proposed approach are extremely high with low execution time.

Among the proposed techniques, the technique which uses Wavelet and Modified Extreme Learning Machine has better PSNR value when compared with the other proposed approaches. Similarly, the MSE value and Execution time are also very less when compared with the other approaches. PSNR value of the proposed image compression technique using Wavelet and Modified Extreme Learning Machine approach is very high when compared with the other proposed approaches. Thus, the proposed image compression technique using Wavelet and Modified Extreme Learning Machine approach outperforms the other proposed approaches in terms of all the parameters taken into consideration.