

Abstract

The development of technology and image compression method recently growing fast. The standard of image format in the Microsoft Windows and IBM OS/2 platform is bitmap (BMP). Image in BMP format better than image in the other format. But, the quality of picture in BMP format reverse compared to file size. The file size of BMP image relatively big. Therefore, some image compression method were being made to reduce file size as small as it can, but the quality of image is not significantly decrease.

In this final assignment, it will be made an application to realize Hebbian Based PCA method to compress digital image. Hebbian Based PCA use neural network architecture named single layer linear feedforward network using modified Hebb learning algorithm with unsupervised learning.

From the result of this final assignment, it get several factors that effect the compressed digital image quality. The factors are the neural network architecture itself (the comparison of input neuron and output neuron), learning rate, and training image. In the other case, compression ratio is effected by the amount of input neuron and output neuron.

Keywords : Hebbian Based PCA, image, compression ratio, neural network.