

## The Effect of Image Compression on Face Recognition Algorithms

**ABSTRACT** Face recognition becomes an important field via the revolution in technology and computer vision. This paper concentrated on recognition rate of face recognition algorithms. The algorithms examined are: Principal Component Analysis, Two Dimensional Principal Component Analysis in Column Direction, Two Dimensional Principal Component Analysis in Row Direction and Two Dimensional Two Directional Principal Component Analysis. All these algorithms are implemented into two environments: training environment and recognition environment. Then a comparison between these four algorithms with respect to recognition rate is implemented. The proposed algorithm is implemented via Discrete Wavelet Transform (DWT) that minimizes the images size. A complexity reduction is achieved by optimizing the number of operations needed. This optimization does not increase the recognition rate only, but also reduce the execution time. A recognition rate improvement of 4% to 5% is achieved by introducing DWT through PCA algorithms.