Abstract

In this final project, optimizing process is implemented on watermarking in DWT transform domain as the environment of watermark penyisipan. The optimation process will use genetic algorithm which has widely been used to solve optimization problem. The performances which will be optimized are invisibility and robustness. Whereareas, the parameters that will be searched by the genetic algorithm are the watermark embedding position and watermark amplification factor.

Based on the implementation of the built system, genetic algorithm can provide watermarking with invisibility and robustness performance that is high simultaniously. The evaluating process which involve images in different classes of contrast, which is done in fitness computation provide similiar result for watermarking performances in almost all the test images. Based on the testing, the parameters that are asessed by the system to provide optimal performance are LH_1HH_2 subband for the postion of the watermark embedding parameter, and 3.60 for the watermark amplification factor parameter.

Keywords: Watermarking, Discrete Wavelet Transform, Genetic Algorithm, Optimization, Robustness, Invisibility.