Abstract

In this age technology development is quickly advancing. There are a lot of things that are made conveniently by technology, one of them is in communication. Communication using internet network was already the first choice because the easiness and speed. But, the data security rarely looked by user. So, it need a data security technique that is safe to protect data when communicating. There are many techniques for protect data security, such as steganography. Steganography is a technique for embed secret information to many media files. On steganography there are some algorithms that developed, such as block permutation image steganography (BPIS). BPIS or block permutation is a method that change message or secret information into binary sequence, then it will be sequenced each blocks with permutation key randomly with spatial domain technique. Then, the result of BPIS will be optimized using Particle Swarm Optimazation (PSO) algorithm so good image quality performance. Embedded a text or information do with Least Significant Bit (LSB) approach. This is to increase data security level and fine image quality.

The result of this project is to using block permutation and PSO algorithm get value of image quality performance 60.4507 dB at value of particle 80 and maximum iteration 50 with MSE 5.86%. While the result of image quality performance using LSB technique is 54.9364 dB with MSE 21.03%. This result show image quality performance using PSO algorithm better than using LSB technique.

Keyword: *Steganography, Block Permutation Image Steganography, Particle Swarm Optimization, spatial domain, Least Significant Bit, citra digital, BMP*