Abstract

This paper proposes an algorithm for spread spectrum watermark design under compressive sampling (CS) attack using hybridization of genetic algorithm (GA) and neural network. In watermarking application, CS may be viewed as a typical fading-like attack operation on the watermarked image. GA is used to determine the watermark strength taking into consideration of both robustness and imperceptibility in the paradigm of CS with additive white Gaussian noise (AWGN) attack channel. Then NN assisted improved detector is developed to classify two image classes i.e. watermarked and non-watermarked one. Simulation results demonstrate the effectiveness of the proposed method.


Index Terms

Computer Science  Computing, Communication

And Sensor Network

Keywords

Spread Spectrum Watermark  Compressive Sampling  Genetic Algorithms  Neural Network