Abstract

This paper presents a unified Steganalyzer that can work with different media types such as images and audios. It is also capable of providing improved accuracy in stego detection through the use of multiple algorithms. The designed system integrates different steganalysis techniques in a reliable Steganalyzer by using a Services Oriented Architecture (SOA). Other
contributions of the research done in this paper include, an improved Mel-Cepstrum technique for audio wav files feature extraction that results in better accuracy in stego detection (> 99.9%), improved overall classification system that is based on three individual classifiers; a Neural Network classifier, a Support Vector Machines classifier, and an AdaBoost algorithm based classifier. Finally, an extensible classifier is introduced that allows incorporation of detecting new embedding techniques to the current system, so that the framework will continue to provide reliable stego detection for future embedding algorithms.

Reference

- Sprott, D., Wilkes, L. Understanding Service-Oriented Architecture.
- He, H. What Is Service-Oriented Architecture.

Index Terms

Computer Science
Security
Key words

Mel-Cepstrum  Support Vector Machines  Neural Networks
AdaBoost