What is Steganalysis

# Essay Topic 6: Steganography or Steganalysis

# Timothy Robinson

# CYSE 301: Cyber Techniques and Operation

# What is Steganalysis?

The textbook definition of Steganalysis is “the study of detecting messages hidden using steganography; this analogous to cryptanalysis applied to cryptography” (Wikipedia, 2020). The overall goal of Steganalysis is to take a large quantity of selected data files and narrow down them to a much smaller group in which there has been a suspected altering of the contained information or any tampering of sorts. This sorting through steganalysis has recently garnered a lot of attention particularly with law enforcement and media in its ability to detect issues through multiple methods such as “visual detection, detection based on first order statistics (histogram analysis), dual statistics methods that use spatial correlations in images and higher-order statistics (RS steganalysis), universal blind detection schemes, and special cases, such as JPEG compatibility” (Friderich and Goljan, 2002).

With these combined methods of steganalysis, theres an implemented system that is attempting to improve the overall ability to detect stego text or the ability to hide messages inside other messages in hopes of being able to effectively distinguish these hidden messages within regular text in a manner that is efficient and quick to ensure that information sent is cleared of any nefarious information or objective that may otherwise cause harm to others or contain information that may damage a select system or structure by a unwarranted third party in convolutional neural networks (CNN). One such method that is being implemented is deep audio steganalysis which is being addressed by a CNN that incorporates bit-plane separation, weight standardized convolution and channel attention in hopes of providing a breakthrough to effectively analyze deep audio steganalysis.(Lee,2020). Another proposed method of CNN is a local-source enhanced resigual network (LSER) which is simple but has two distinct characteristic from previous methods in that is yses residual blocks without any normalization and uses a local-source skip connection to bypass features of different levels, which allows a greater feature representation. (Ahn, 2020)

There are many more methods of CNN for steganalysis being devolped especially today in a multitude of ways to ensure the most effective system for discovering and decrypting steganography is developed so that it can reach maximum efficiency in as little amount of time as possible to create a fail-proof system of detection and analysis.

# References

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