

Noiseless Steganography: The Key to Covert Communications

By Abdelrahman Desoky



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Among the features that make **Noiseless Steganography: The Key to Covert Communications** a first of its kind:

- The first to comprehensively cover Linguistic Steganography
- The first to comprehensively cover Graph Steganography
- The first to comprehensively cover Game Steganography

Although the goal of steganography is to prevent adversaries from suspecting the existence of covert communications, most books on the subject present outdated steganography approaches that are detectable by human and/or machine examinations. These approaches often fail because they camouflage data as a detectable noise by altering digital images, audio files, text, etc. However, such alteration raises suspicion and makes the message discernible by detecting its noise.

Addressing such shortcomings, **Noiseless Steganography: The Key to Covert Communications** introduces a novel Noiseless Steganography Paradigm (Nostega). Rather than hiding data in noise or producing noise, Nostega camouflages messages as well as their transmission in the form of unquestionable data in the generated steganographic cover. The book explains how to use Nostega to determine suitable domains capable of generating unsuspicious steganographic cover in which messages are embedded in the form of innocent data that is compatible with the chosen domain. It presents a number of Nostegabased methodologies, including but not limited to:

- A novel cover type that enables data to be hidden in plotted graphs
- A novel methodology that pursues popular games such as chess, checkers, crosswords, and dominoes to conceal messages
- Comprehensive coverage of linguistic steganography
- Several novel linguistic steganography methodologies based on Natural Language Processing and Computational Linguistic techniques such as:

Education-Centric-Based, Summarization-Based, Natural Language Generation Based, Random-Series-Based, Email Headers Based, Automatic Joke Generation Based, List-Based, and Automatic Notes Generation Based

The first book to provide comprehensive coverage of Linguistic Steganography, Graph Steganography, and Game Steganography, it discusses the implementation and steganalysis validation of ten Nostega-based methodologies. It describes how to establish covert channels by employing the selected domain to serve as justification for the interaction and delivery of the cover among the communicating parties. Instead of using contemporary steganography approaches to camouflage your data as noise that is assumed to look innocent, the text provides you with the tools to prevent your adversaries from suspecting the existence of covert communications altogether.

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Editorial Review

About the Author

Dr. Abdelrahman Desoky is a scientist and an ambitious Computer Engineering Doctorate with over twenty years of experience in the computer field. He is an experienced educator at both the graduate and undergraduate levels. Furthermore, he has industrial expertise in developing full life cycle systems such as software, hardware, security, and telecommunications/networks. Dr. Desoky received a Doctoral Degree (Ph.D.) from The University of Maryland, Baltimore County (UMBC) and a Master of Science (M.Sc.) from the George Washington University; both degrees are in Computer Engineering. His Doctoral Dissertation is entitled "Nostega: A Novel Noiseless Steganography Paradigm." The paradigm explores the topic of noiseless steganography, which refers to the science and art of covert communications. Nostega provides a way to secure information in static stage and during data transmission to a legitimate recipient. His M.Sc. degree concentrated on Computer Architecture and Networks. His research is entitled "Security Architecture for Computers and Networks". Currently, he is The Academia Planet, CEO.

Users Review

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Sarita Springer:

This Noiseless Steganography: The Key to Covert Communications book is simply not ordinary book, you have after that it the world is in your hands. The benefit you get by reading this book is information inside this publication incredible fresh, you will get information which is getting deeper an individual read a lot of information you will get. This Noiseless Steganography: The Key to Covert Communications without we realize teach the one who reading through it become critical in thinking and analyzing. Don't possibly be worry Noiseless Steganography: The Key to Covert Communications can bring any time you are and not make your case space or bookshelves' turn out to be full because you can have it inside your lovely laptop even cell phone. This Noiseless Steganography: The Key to Covert Communications having good arrangement in word as well as layout, so you will not sense uninterested in reading.

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