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Edizione	[1st edition]
Descrizione fisica	1 online resource (394 p.)
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Soggetti	Machine learning Wavelets (Mathematics) Data encryption (Computer science)
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Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Matter -- Overview. Introduction -- Steganography and Steganalysis -- Getting Started with a Classifier -- Features. Histogram Analysis -- Bit-Plane Analysis -- More Spatial Domain Features -- The Wavelets Domain -- Steganalysis in the JPEG Domain -- Calibration Techniques -- Classifiers. Simulation and Evaluation -- Support Vector Machines -- Other Classification Algorithms -- Feature Selection and Evaluation -- The Steganalysis Problem -- Future of the Field -- Bibliography -- Index.
Sommario/riassunto	Steganography is the art of communicating a secret message, hiding the very existence of a secret message. This is typically done by hiding the message within a non-sensitive document. Steganalysis is the art and science of detecting such hidden messages. The task in steganalysis is to take an object (communication) and classify it as either a steganogram or a clean document. Most recent solutions apply classification algorithms from machine learning and pattern recognition, which tackle problems too complex for analytical solution

by teaching computers to learn from empirical data. Part 1 of the book is an introduction to steganalysis as part of the wider trend of multimedia forensics, as well as a practical tutorial on machine learning in this context. Part 2 is a survey of a wide range of feature vectors proposed for steganalysis with performance tests and comparisons. Part 3 is an in-depth study of machine learning techniques and classifier algorithms, and presents a critical assessment of the experimental methodology and applications in steganalysis. Key features:

- . Serves as a tutorial on the topic of steganalysis with brief introductions to much of the basic theory provided, and also presents a survey of the latest research.
- . Develops and formalises the application of machine learning in steganalysis; with much of the understanding of machine learning to be gained from this book adaptable for future study of machine learning in other applications.
- . Contains Python programs and algorithms to allow the reader to modify and reproduce outcomes discussed in the book.
- . Includes companion software available from the author's website.
