

F. Y. Shih (Editor), *Multimedia Security: Watermarking, Steganography, and Forensics*, 423 pages, Taylor & Francis Group, CRC Press, Boca Raton, FL, 2013, ISBN: 978-1-4398-7331-1 (list price: \$129.95).

Features

- Explores state-of-the-art techniques for multimedia security and steganography
- Includes numerous practical examples and case studies
- Provides a clear tutorial and more intuitive development of complex technology
- Includes extensive discussion of multimedia security and steganography methods
- Details steganalysis techniques in addition to their counter-examples

Summary

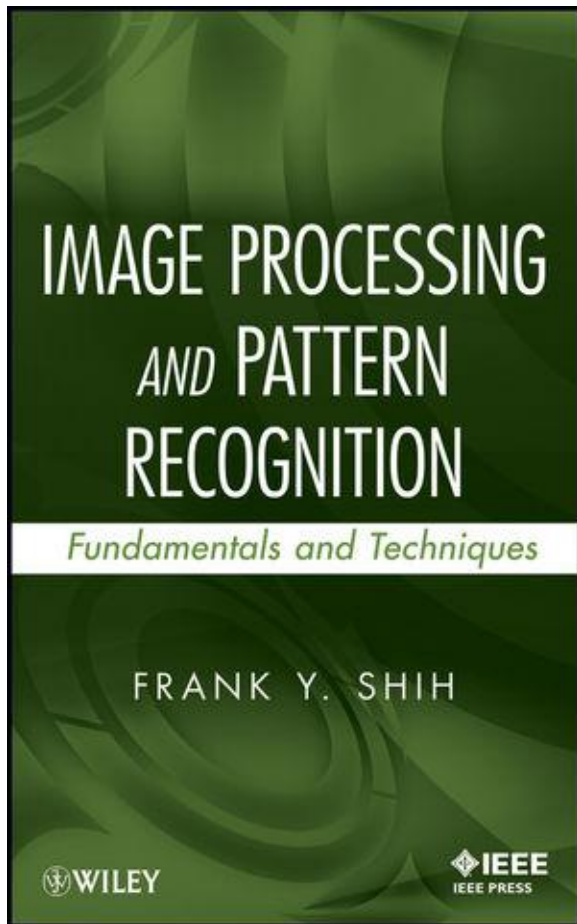
Multimedia Security: Watermarking, Steganography, and Forensics outlines essential principles, technical information, and expert insights on multimedia security technology used to prove that content is authentic and has not been altered. Illustrating the need for improved content security as the Internet and digital multimedia applications rapidly evolve, this book presents a wealth of everyday protection application examples in fields including multimedia mining and classification, digital watermarking, steganography, and digital forensics.

Giving readers an in-depth overview of different aspects of information security mechanisms and methods, this resource also serves as an instructional tool on how to use the fundamental theoretical framework required for the development of extensive advanced techniques. The presentation of several robust algorithms illustrates this framework, helping readers to quickly master and apply fundamental principles.

Presented case studies cover:

- The execution (and feasibility) of techniques used to discover hidden knowledge by applying multimedia duplicate mining methods to large multimedia content
- Different types of image steganographic schemes based on vector quantization
- Techniques used to detect changes in human motion behavior and to classify different types of small-group motion behavior

Useful for students, researchers, and professionals, this book consists of a variety of technical tutorials that offer an abundance of graphs and examples to powerfully convey the principles of multimedia security and steganography. Imparting the extensive experience of the contributors, this approach simplifies problems, helping readers more easily understand even the most complicated theories. It also enables them to uncover novel concepts involved in the implementation of algorithms, which can lead to the discovery of new problems and new means of solving them.



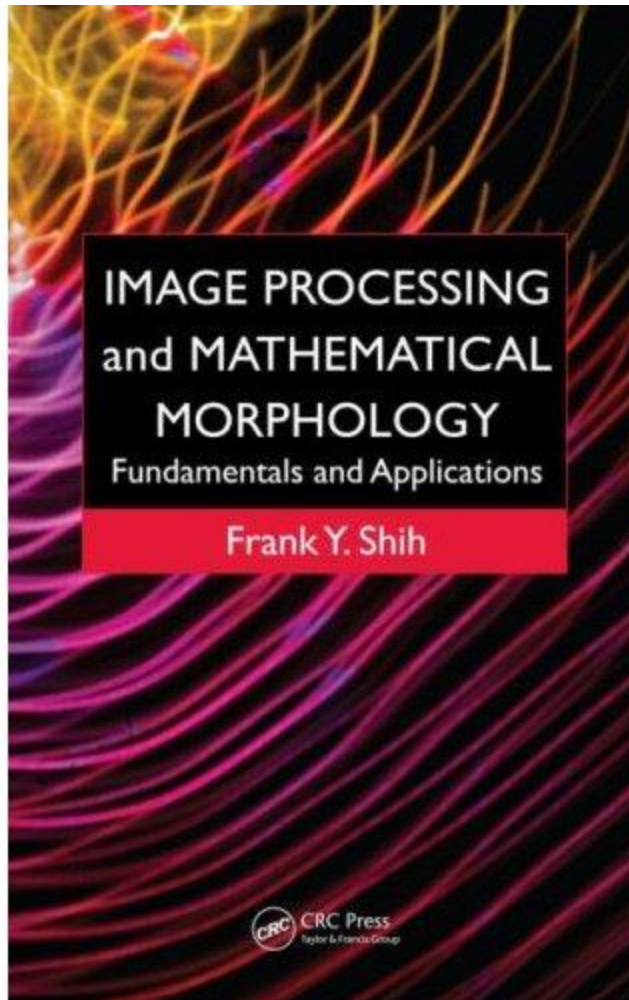
F. Y. Shih, *Image Processing and Pattern Recognition: Fundamentals and Techniques*, 537 pages, Wiley-IEEE Press, ISBN-10: 0-470-40461-2, ISBN-13: 978-0-470-40461-4, 2010 (list price: \$125.00).

This book offers a comprehensive guide to the essential principles of image processing and pattern recognition. Techniques and in the areas of image processing and pattern recognition are growing at an unprecedented rate. Containing the latest state-of-the-art developments in the field, *Image Processing and Pattern Recognition* presents clear explanations of the fundamentals as well as the most recent applications. It explains the essential principles so readers will not only be able to easily implement the algorithms and techniques, but also lead themselves to discover new problems and applications.

Unlike other books on the subject, this volume presents numerous fundamental and advanced image processing algorithms and pattern recognition techniques to illustrate the framework. Scores of graphs and examples, technical assistance, and practical tools illustrate the basic principles and help simplify the problems, allowing students as well as professionals to easily grasp even complicated theories. It also features unique coverage of the most interesting developments and updated techniques, such as image watermarking, digital steganography, document processing and classification, solar image processing and event classification, 3-D Euclidean distance transformation, shortest path planning, soft morphology, recursive

morphology, regulated morphology, and sweep morphology. Additional topics include enhancement and segmentation techniques, active learning, feature extraction, neural networks, and fuzzy logic.

Featuring supplemental materials for instructors and students, Image Processing and Pattern Recognition is designed for undergraduate seniors and graduate students, engineering and scientific researchers, and professionals who work in signal processing, image processing, pattern recognition, information security, document processing, multimedia systems, and solar physics.



F. Y. Shih, *Image Processing and Mathematical Morphology: Fundamentals and Applications*, 439 pages, CRC Press, Boca Raton, FL, Mar. 10, 2009, ISBN-10# 1-4200-8943-9, ISBN-13# 978-1420089431 (list price: \$129.95).

Editorial Reviews

Product Description

In the development of digital multimedia, the importance and impact of image processing and mathematical morphology are well documented in areas ranging from automated vision detection and inspection to object recognition, image analysis and pattern recognition. Those working in these ever-evolving fields require a solid grasp of basic fundamentals, theory, and related applications—and few books can provide the unique tools for learning contained in this text.

Image Processing and Mathematical Morphology: Fundamentals and Applications is a comprehensive, wide-ranging overview of morphological mechanisms and techniques and their relation to image processing. More than merely a tutorial on vital technical information, the book places this knowledge into a theoretical framework. This helps readers analyze key principles and architectures and then use the author's novel ideas on implementation of advanced

algorithms to formulate a practical and detailed plan to develop and foster their own ideas. The book:

- Presents the history and state-of-the-art techniques related to image morphological processing, with numerous practical examples
- Gives readers a clear tutorial on complex technology and other tools that rely on their intuition for a clear understanding of the subject
- Includes an updated bibliography and useful graphs and illustrations
- Examines several new algorithms in great detail so that readers can adapt them to derive their own solution approaches

This invaluable reference helps readers assess and simplify problems and their essential requirements and complexities, giving them all the necessary data and methodology to master current theoretical developments and applications, as well as create new ones.

About the Author

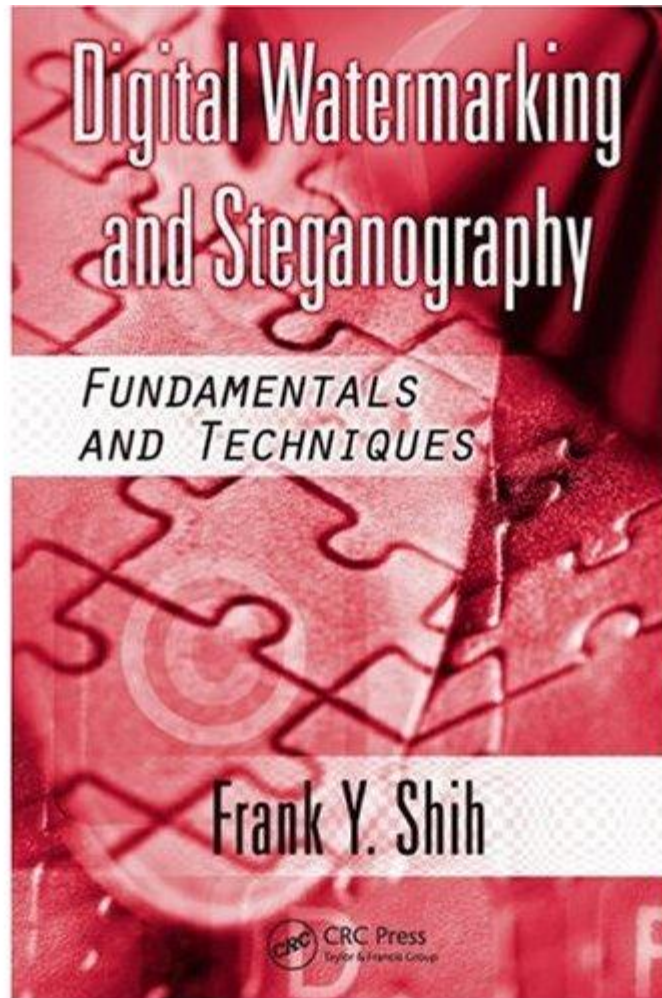
New Jersey Institute of Technology, Newark, USA

Product Details

- **Hardcover:** 439 pages
- **Publisher:** CRC; 1 edition (March 19, 2009)
- **Language:** English
- **ISBN-10:** 1420089439
- **ISBN-13:** 978-1420089431

Annotation

Exceptionally comprehensive, this text covers both basic and advanced techniques in image processing and mathematical morphology. It goes beyond the technical to instruct readers on the fundamental theoretical framework required to understand as well as develop extensive advanced techniques. It includes image enhancement, edge detection and linking, order statistics morphology, regulated morphology, alternating sequential morphology, recursive morphology, soft morphology, fuzzy morphology, and sweep morphology. It also discusses practical applications, such as distance transformation, feature extraction, object representation and recognition, shape description, and shortest path planning. The principles are thoroughly illustrated with graphs and examples.



Digital Watermarking and Steganography: Fundamentals and Techniques (Hardcover) by Professor Frank Y. Shih (Author), CRC Publisher, **ISBN-13:** 978-1420047578, December 17, 2007.

Editorial Reviews

Book Description

Every day millions of people capture, store, transmit, and manipulate digital data. Unfortunately free access digital multimedia communication also provides virtually unprecedented opportunities to pirate copyrighted material. Providing the theoretical background needed to develop and implement advanced techniques and algorithms, **Digital Watermarking and Steganography**

- Demonstrates how to develop and implement methods to guarantee the authenticity of digital media
- Explains the categorization of digital watermarking techniques based on characteristics as well as applications

- Presents cutting-edge techniques such as the GA-based breaking algorithm on the frequency-domain steganalytic system.

The popularity of digital media continues to soar. The theoretical foundation presented within this valuable reference will facilitate the creation on new techniques and algorithms to combat present and potential threats against information security.

Product Details

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