1. Record Nr. UNINA9910366598403321

Autore	Yan Bin
Titolo	Improving Image Quality in Visual Cryptography / / by Bin Yan, Yong Xiang, Guang Hua
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2020
ISBN	981-13-8289-1
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (XVIII, 120 p. 74 illus., 13 illus. in color.)
Collana	Signals and Communication Technology, , 1860-4862
Disciplina	621.382
Soggetti	Signal processing Image processing Speech processing systems Data encryption (Computer science) Mathematics Visualization Signal, Image and Speech Processing Cryptology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Basic visual cryptography algorithms -- Improving the visual quality for binary secret images -- Digital Halftoning -- Improving visual quality for share images -- Improving visual quality for probabilistic and random grid schemes -- Improving visual quality for vector schemes -- Conclusion.
Sommario/riassunto	This book comprehensively covers the important efforts in improving the quality of images in visual cryptography (VC), with a focus on cases with gray scale images. It not only covers schemes in traditional VC and extended VC for binary secret images, but also the latest development in the analysis-by-synthesis approach. This book distinguishes itself from the existing literature in three ways. First, it not only reviews traditional VC for binary secret images, but also covers recent efforts in improving visual quality for gray scale secret images. Second, not only traditional quality measures are reviewed, but also measures that were not used for measuring perceptual quality of decrypted secret images, such as Radially Averaged Power Spectrum Density (RAPSD) and

residual variance, are employed for evaluating and guiding the design of VC algorithms. Third, unlike most VC books following a mathematical formal style, this book tries to make a balance between engineering intuition and mathematical reasoning. All the targeted problems and corresponding solutions are fully motivated by practical applications and evaluated by experimental tests, while important security issues are presented as mathematical proof. Furthermore, important algorithms are summarized as pseudocodes, thus enabling the readers to reproduce the results in the book. Therefore, this book serves as a tutorial for readers with an engineering background as well as for experts in related areas to understand the basics and research frontiers in visual cryptography.