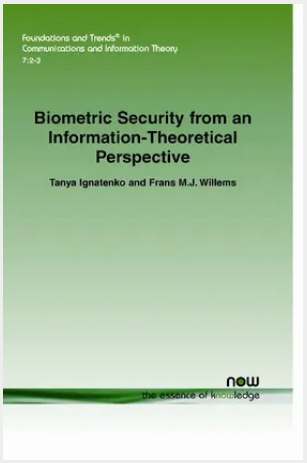
Ignatenko / Willems

Biometric Security from an Information-Theoretical Perspective



The issue of biometric security has become a major research area recently. While systems based on iris-recognition, DNA analysis and fingerprinting are being deployed there are instances where these alone cannot provide fool-proof security. Biometric Security from an Information-Theoretical Perspective provides an overview of the state-of-the-art of biometric security systems. Using information theoretic techniques it discusses some of the most promising methods to provide practical, but safe systems. Biometric Security from an Information-Theoretical Perspective studies a number of problems related to the design of biometric secrecy systems for both authentication and identification. First, it reviews the problem of secret sharing in order to set theoretical grounds for the subsequent discussion of secret-key rates and privacy leakage in biometric secrecy systems. Biometric authentication systems are discussed in depth using discrete and Gaussian biometric sources, before describing biometric identification techniques in detail. Since biometric data are typically used for both identification and authentication purposes, the trade-off between identification, secret-key and privacy-leakage rates are determined. Finally, practical considerations are treated. The realization of binary biometric authentication systems with chosen secret keys, called fuzzy commitment, is analyzed. It concludes by investigating how binary quantization of biometric sequences influences the performance of biometric secrecy systems with respect to secret-key rates and privacy leakage. Biometric Security from an Information-Theoretical Perspective is an in-depth review of the topic which gives the reader an excellent starting point for further research.

99,00 €
92,52 € (zzgl. MwSt.)

Nicht mehr lieferbar

Artikelnummer: 9781601985224
Medium: Buch
ISBN: 978-1-60198-522-4
Verlag: Now Publishers
Erscheinungstermin: 15.02.2012
Sprache(n): Englisch
Auflage: 1. Auflage 2012
Serie: Foundations and Trends® in Communications and Information Theory
Produktform: Kartoniert
Seiten: 192
Format (B x H): 156 x 234 mm

Kundenservice Verlag Dr. Otto Schmidt KG
Neumannstraße 10, 40235 Düsseldorf | kundenservice@otto-schmidt.de | 0221-93738-997 (Inland)