Boolean Functions and Their Applications in Cryptography (Advances in Computer Science and Technology)

By Chuan-Kun Wu, Dengguo Feng

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This book focuses on the different representations and cryptographic properties of Booleans functions, presents constructions of Boolean functions with some good cryptographic properties. More specifically, Walsh spectrum description of the traditional cryptographic properties of Boolean functions, including linear structure, propagation criterion, nonlinearity, and correlation immunity are presented. Constructions of symmetric Boolean functions and of Boolean permutations with good cryptographic properties are specifically studied. This book is not meant to be comprehensive, but with its own focus on some original research of the authors in the past. To be self content, some basic concepts and properties are introduced. This book can serve as a reference for cryptographic algorithm designers, particularly the designers of stream ciphers and of block ciphers, and for academics with interest in the cryptographic properties of Boolean functions.

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Editorial Review

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Chuan-Kun Wu, a research professor at the Institute of Information Engineering, Chinese Academy of Sciences, majoring in information security and related fundamental mathematics. He has published over 100 refereed research papers, and has co-authored a few books.

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