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Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Cyberpatterns: Towards a Pattern Oriented Study of Cyberspace -- Towards a Conceptual Framework for Security Patterns -- Design Patterns: Applications and Open Issues -- Challenges For A Formal Framework for Patterns -- Design Space-Based Pattern Representation -- Extending AOP Principles for the Description of Network Security Patterns -- Management Patterns for Network Resilience: Design and Verification of Policy Configurations -- A Heuristic Approach for Secure Service Composition Adaptation.- A Strategy for Structuring and Formalising Attack Patterns -- Attack Pattern Recognition through Correlating Cyber Situational Awareness in Computer Networks -- Towards a Penetration Testing Framework using Attack Patterns -- On the use of Design Patterns to Capture Memory Corruption

Vulnerabilities -- ‘Weird Machine’ Patterns -- Towards a Simulation of Information Security Behaviour in Organisations -- Security Design Patterns in the MASTER Workbench -- Evaluating the Implications of Attack and Security Patterns with Premortems -- An Overview of Artificial Intelligence Based Pattern Matching in a Security and Digital Forensic Context -- Partitional Clustering of Malware using K-Means -- Dynamic Monitoring of Composed Services -- Where has this hard disk been? : Extracting geospatial intelligence from digital storage systems -- Future Directions for Research on Cyberpatterns.

Sommario/riassunto

Cyberpatterns are predictable regularities in cyberspace helping us to design and implement more effective and secure systems, and to detect and respond to breaches, failures and deficiencies in operational systems. Cyberpatterns is in its infancy and there are many challenges including: Developing a scientific foundation of pattern-oriented research methods Developing better engineering practice in novel application domains such as for cloud and cyberphysical systems Constructing a sharable knowledge-base to aid education of students, design of novel systems and the development of automated design tools Innovative applications of design patterns to pattern recognition and big data Highlights: Presents the state-of-the-art in the novel field of cyberpatterns Demonstrates the application of patterns to cyber security and other key cyberspace domains Supports the development of a sound scientific, engineering and mathematical foundation for cyberspace This important new book provides an introduction to and coverage of the state-of-the-art of cyberpatterns, from a theoretical standpoint and via practical applications, bringing together different interdisciplinary areas under one roof to portray a holistic view of the underlying principles and mechanisms of cyberpatterns. Clive Blackwell is an Associate Lecturer at Oxford Brookes University specialising in cyber security and digital forensics Hong Zhu is a Professor at Oxford Brookes University where he is Head of the Applied Formal Methods Research Group. He has a longstanding interest in design patterns and is the author of ‘Software design methodology: from principles to architectural styles’.