1. Record Nr. UNINA9910135024403321

Autore	Tan Ying <1964->
Titolo	Artificial immune system : applications in computer security / / Ying Tan
Pubbl/distr/stampa	Hoboken, New Jersey : , : Wiley, , 2016 [Piscataqay, New Jersey] : , : IEEE Xplore, , [2016]
ISBN	1-119-07627-7 1-119-07652-8 1-119-07658-7
Descrizione fisica	1 online resource (240 p.)
Classificazione	COM083000
Disciplina	005.8
Soggetti	Artificial immune systems Computer security Computer networks - Security measures
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	-- Preface xiii -- About Author xxi -- Acknowledgements xxiii -- 1 Artificial Immune System 1 -- 1.1 Introduction 1 -- 1.2 Biological Immune System 2 -- 1.2.1 Overview 2 -- 1.2.2 Adaptive Immune Process 3 -- 1.3 Characteristics of BIS 4 -- 1.4 Artificial Immune System 6 -- 1.5 AIS Models and Algorithms 8 -- 1.5.1 Negative Selection Algorithm 8 -- 1.5.2 Clonal Selection Algorithm 9 -- 1.5.3 Immune Network Model 11 -- 1.5.4 Danger Theory 12 -- 1.5.5 Immune Concentration 13 -- 1.5.6 Other Methods 14 -- 1.6 Characteristics of AIS 15 -- 1.7 Applications of Artificial Immune System 16 -- 1.7.1 Virus Detection 16 -- 1.7.2 Spam Filtering 16 -- 1.7.3 Robots 20 -- 1.7.4 Control Engineering 21 -- 1.7.5 Fault Diagnosis 22 -- 1.7.6 Optimized Design 22 -- 1.7.7 Data Analysis 22 -- 1.8 Summary 22 -- 2 Malware Detection 27 -- 2.1 Introduction 27 -- 2.2 Malware 28 -- 2.2.1 Definition and Features 28 -- 2.2.2 The Development Phases of Malware 29 -- 2.3 Classic Malware Detection Approaches 30 -- 2.3.1 Static Techniques 31 -- 2.3.2 Dynamic Techniques 31 -- 2.3.3 Heuristics 32 -- 2.4 Immune Based Malware

Sommario/riassunto

"This book focuses on the technologies and applications of artificial immune systems in malware and spam detection proposed in recent years by the computation intelligence laboratory at Peking University, China. It offers a theoretical perspective and practical solutions to graduate students, practitioners, and researchers working in the area of artificial immune system, machine learning, pattern recognition, and computer security"--