1. Record Nr. UNINA9910299701403321

Titolo	Chaos Modeling and Control Systems Design / / edited by Ahmad Taher Azar, Sundarapandian Vaidyanathan
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2015
ISBN	3-319-13132-X
Edizione	[1st ed. 2015.]
Descrizione fisica	1 online resource (X, 416 p. 193 illus., 15 illus. in color.)
Collana	Studies in Computational Intelligence, , 1860-949X ; ; 581
Disciplina	003.857015118
Soggetti	Computational intelligence Artificial intelligence Computational Intelligence Artificial Intelligence
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Analysis and Control of a Novel 4-D Hyperchaotic System -- Analysis, Control and Synchronization of a Nine-Term Novel 3-D Chaotic System -- Backstepping Controller Design for the Global Chaos Synchronization of Sprott's Jerk Systems -- Multi-Scroll Chaotic Oscillator Based on a First-Order Delay Differential Equation -- Projective Synchronization Scheme Based on Fuzzy Controller for Uncertain Multivariable Chaotic Systems -- Deadbeat Control for for Multivariable Discrete Time Systems with Time Varying Delay -- Control of Smart Grid Residential Buildings with Demand Response -- Application of Some Modern Techniques in Load Frequency Control in Power Systems -- Investigating Metaheuristics Applications for Capacitated Location Allocation Problem in Logistics Networks -- Classification of Heart Disorders Based on Tunable-Q Wavelet Transform of Cardiac Sound Signals -- Reliability-Constrained Optimal Distribution System Reconfiguration -- Machine Learning aided Efficient Tools for Risk Evaluation and Operational Planning of Multiple Contingencies -- Goal Directed Synthesis of Serial Manipulators Based on Task Descriptions -- Intelligent Tracking Control System for Fast Image Scanning of Atomic Force Microscopes -- Fault Diagnosis Algorithms by Combining Structural Graphs and PCA Approaches for

Chemical Processes.

Sommario/riassunto

The development of computational intelligence (CI) systems was inspired by observable and imitable aspects of intelligent activity of human being and nature. The essence of the systems based on computational intelligence is to process and interpret data of various nature so that that CI is strictly connected with the increase of available data as well as capabilities of their processing, mutually supportive factors. Developed theories of computational intelligence were quickly applied in many fields of engineering, data analysis, forecasting, biomedicine and others. They are used in images and sounds processing and identifying, signals processing, multidimensional data visualization, steering of objects, analysis of lexicographic data, requesting systems in banking, diagnostic systems, expert systems and many other practical implementations. This book consists of 15 contributed chapters by subject experts who are specialized in the various topics addressed in this book. The special chapters have been brought out in the broad areas of Control Systems, Power Electronics, Computer Science, Information Technology, modeling and engineering applications. Special importance was given to chapters offering practical solutions and novel methods for the recent research problems in the main areas of this book, viz. Control Systems, Modeling, Computer Science, IT and engineering applications. This book will serve as a reference book for graduate students and researchers with a basic knowledge of control theory, computer science and soft-computing techniques. The resulting design procedures are emphasized using Matlab/Simulink software.