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Nota di contenuto	Contents ; Foreword ; Preface ; Chapter I Introduction ; S1.1 Classification of fuzzy neural networks ; S1.2 Fuzzy neural networks with fuzzy operators ; S1.3 Puzzified neural networks ; 1.3.1 Learning algorithm for regular FNN's ; 1.3.2 Universal approximation of regular FNN's S1.4 Fuzzy systems and fuzzy inference networks 1.4.1 Fuzzy systems ; 1.4.2 Fuzzy inference networks ; S1.5 Fuzzy techniques in image restoration ; 1.5.1 Crisp nonlinear filters ; 1.5.2 Fuzzy filters ; S1.6 Notations and preliminaries ; S1.7 Outline of the topics of the chapters References Chapter II Fuzzy Neural Networks for Storing and Classifying ; S2.1 Two layer max-min fuzzy associative memory ; 2.1.1 FAM with threshold ; 2.1.2 Simulation example ; S2.2 Fuzzy 6-learning algorithm ; 2.2.1 FAM's based on 'V - \wedge ' ; 2.2.2 FAM's

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S2.3 BP learning algorithm of FAM's 2.3.1
Two analytic functions ; 2.3.2 BP learning
algorithm ; S2.4 Fuzzy ART and fuzzy ARTMAP
; 2.4.1 ART1 architecture ; 2.4.2 Fuzzy ART
; 2.4.3 Fuzzy ARTMAP ; 2.4.4 Real examples
; References
Chapter III Fuzzy Associative Memory-Feedback Networks
S3.1 Fuzzy Hopfield networks ; 3.1.1 Attractor
and attractive basin ; 3.1.2 Learning
algorithm based on fault-tolerance
; 3.1.3 Simulation example ; S3.2 Fuzzy Hopfield
network with threshold ; 3.2.1 Attractor
and stability
3.2.2 Analysis of fault-tolerance

Sommario/riassunto

This book systematically synthesizes research achievements in the field of fuzzy neural networks in recent years. It also provides a comprehensive presentation of the developments in fuzzy neural networks, with regard to theory as well as their application to system modeling and image restoration. Special emphasis is placed on the fundamental concepts and architecture analysis of fuzzy neural networks. The book is unique in treating all kinds of fuzzy neural networks and their learning algorithms and universal approximations, and employing simulation examples which are carefully designed to h
