

1. Record Nr.	UNISA996216867603316
Autore	Akay Metin
Titolo	Nonlinear biomedical signal processing . Volume 1 Fuzzy logic, neural networks, and new algorithms // edited by Metin Akay
Pubbl/distr/stampa	New York : , : IEEE Press, , c2000 [Piscataway, New Jersey] : , : IEEE Xplore, , [2000]
Descrizione fisica	1 PDF (276 pages) : illustrations (some color)
Collana	IEEE Press series on biomedical engineering ; ; 5
Altri autori (Persone)	AkayMetin
Disciplina	610/.285/632
Soggetti	Signal processing Biomedical engineering Fuzzy logic Neural networks (Computer science)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Preface. List of Contributors. Uncertainty Management in Medical Applications (B. Bouchon-Meunier). Applications of Fuzzy Clustering to Biomedical Signal Processing and Dynamic System (A. Geva). Neural Networks: A Guided Tour (S. Haykin). Neural Networks in Processing and Analysis of Biomedical Signals (H. Nazeran & K. Behbehani). Rare Event Detection in Genomic Sequences by Neural Networks and Sample Stratification (W. Choe, et al.). An Axiomatic Approach to Reformulating Radial Basis Neural Networks (N. Karayiannis). Soft Learning Vector Quantization and Clustering Algorithms Based on Reformulation (N. Karayiannis). Metastable Associative Network Models of Neuronal Dynamics Transition During Sleep (M. Nakao & M. Yamamoto). Artificial Neural Networks for Spectroscopic Signal Measurement (C.-W. Lin, et al.). Applications of Feed-Forward Neural Networks in the Electrogastragram (Z. Lin & J. Chen). Index. About the Editor.
Sommario/riassunto	For the first time, eleven experts in the fields of signal processing and biomedical engineering have contributed to an edition on the newest theories and applications of fuzzy logic, neural networks, and algorithms in biomedicine. Nonlinear Biomedical Signal Processing, Volume I provides comprehensive coverage of nonlinear signal

processing techniques. In the last decade, theoretical developments in the concept of fuzzy logic have led to several new approaches to neural networks. This compilation delivers plenty of real-world examples for a variety of implementations and applications of nonlinear signal processing technologies to biomedical problems. Included here are discussions that combine the various structures of Kohonen, Hopfield, and multiple-layer "designer" networks with other approaches to produce hybrid systems. Comparative analysis is made of methods of genetic, back-propagation, Bayesian, and other learning algorithms. Topics covered include: . Uncertainty management. Analysis of biomedical signals. A guided tour of neural networks. Application of algorithms to EEG and heart rate variability signals. Event detection and sample stratification in genomic sequences. Applications of multivariate analysis methods to measure glucose concentration

Nonlinear Biomedical Signal Processing, Volume I is a valuable reference tool for medical researchers, medical faculty and advanced graduate students as well as for practicing biomedical engineers. Nonlinear Biomedical Signal Processing, Volume I is an excellent companion to Nonlinear Biomedical Signal Processing, Volume II: Dynamic Analysis and Modeling.
