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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 Kohenen, 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.