

1. Record Nr.	UNINA9910454089903321
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Titolo	Neural networks for intelligent signal processing [[electronic resource]] / Anthony Zaknich
Pubbl/distr/stampa	River Edge, NJ, : World Scientific, c2003
ISBN	1-281-94787-3 9786611947873 981-279-685-1
Descrizione fisica	1 online resource (510 p.)
Collana	Series on innovative intelligence ; ; v. 4
Disciplina	006.3/2
Soggetti	Neural networks (Computer science) Signal processing - Digital techniques Intelligent control systems Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Contents; Acknowledgments; Foreword; Preface; 1. Introduction; 1.1 Motivation for ANNs; 1.2 ANN Definitions and Main Types; 1.3 Specific ANN Models; 1.4 ANN Black Box Model; 1.5 ANN Implementation; 1.6 When To Use an ANN; 1.7 How To Use an ANN 1.8 General Applications 1.9 Pattern Recognition Examples; 1.9.1 Sheep Eating Phase Identification from Jaw Sounds; 1.9.2 Particle Isolation in SEM Images; 1.9.3 Oxalate Needle Detection in Microscope Images ; 1.10 Function Mapping and Filtering Examples 1.10.1 Water Level from Resonant Sound Analysis 1.10.2 Nonlinear Signal Filtering; 1.11 Motor Control Example; 1.12 ANN Summary; References; 2. A Brief Historical Overview; 2.1 ANN History to 1970; 2.1.1 Key Events prior to 1970; 2.2 ANN History after 1970 2.2.1 Key Events after 1970 to the Mid 1980's 2.2.2 Developments after the Mid 1980's; 2.2.3 Nonparametric Learning From Finite Data; 2.3 Reasons for the Resurgence of Interest in ANNs; 2.4 Historical Summary ; References; 3. Basic Concepts; 3.1 The Basic Model of the Neuron 3.2 Activation Functions 3.3 Topologies; 3.4 Learning; 3.4.1 A Basic

Supervised Learning Algorithm; 3.4.2 A Basic Unsupervised Learning Algorithm; 3.5 The Basic McCulloch Pitts and Perceptron Models; 3.6 Vectors Spaces and Matrix Models; 3.6.1 ANN Classifiers
3.6.2 Vectors and Feature Spaces

Sommario/riassunto

This book provides a thorough theoretical and practical introduction to the application of neural networks to pattern recognition and intelligent signal processing. It has been tested on students, unfamiliar with neural networks, who were able to pick up enough details to successfully complete their masters or final year undergraduate projects. The text also presents a comprehensive treatment of a class of neural networks called common bandwidth spherical basis function NNs, including the probabilistic NN, the modified probabilistic NN and the general regression. Contents

2. Record Nr.

UNINA9910135030203321

Titolo

Macrocyclic and supramolecular chemistry : how Izatt-Christensen Award winners shaped the field / / edited by Reed M. Izatt

Pubbl/distr/stampa

Chichester, West Sussex, England : , : Wiley, , 2016

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ISBN

1-119-05387-0
1-119-05386-2
1-119-05385-4

Descrizione fisica

1 online resource (775 p.)

Disciplina

541.226

Soggetti

Izatt-Christensen Award in Macrocyclic and Supramolecular Chemistry
Supramolecular chemistry - Awards
Chemistry - Awards
Macrocyclic compounds
Electronic books.

Lingua di pubblicazione

Inglese

Formato

Materiale a stampa

Livello bibliografico

Monografia

Note generali

Description based upon print version of record.

Nota di bibliografia

Includes bibliographical references at the end of each chapters and index.

Sommario/riassunto

Commemorates the 25th anniversary of the Izatt-Christensen Award, which has been presented since 1991 at the annual meeting of the International Symposium on Macrocyclic and Supramolecular Chemistry (ISMSC). --
