1. Record Nr. UNINA9910791293803321 Autore Theodoridis Sergios <1951-> Titolo Pattern recognition [[electronic resource] /] / Sergios Theodoridis, Konstantinos Koutroumbas Amsterdam;; London,: Elsevier/Academic Press, c2009 Pubbl/distr/stampa **ISBN** 1-282-54115-3 9786612541155 0-08-094912-6 Edizione [4th ed.] Descrizione fisica 1 online resource (981 p.) KoutroumbasKonstantinos <1967-> Altri autori (Persone) Disciplina 006.4 Soggetti Pattern recognition systems Pattern perception Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Previous ed.: Amsterdam: Academic, 2003. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Front Cover; Pattern Recognition; Copyright Page; Contents; Preface; Chapter 1 Introduction; 1.1 Is Pattern Recognition Important?; 1.2 Features, Feature Vectors, and Classifiers; 1.3 Supervised, Unsupervised, and Semi-Supervised Learning; 1.4 MATLAB Programs; 1.5 Outline of The Book; Chapter 2 Classifiers Based on Bayes Decision Theory: 2.1 Introduction: 2.2 Bayes Decision Theory: 2.3 Discriminant Functions and Decision Surfaces; 2.4 Bayesian Classification for Normal Distributions; 2.5 Estimation of Unknown Probability Density Functions; 2.6 The Nearest Neighbor Rule; 2.7 Bayesian Networks 2.8 Problems References; Chapter 3 Linear Classifiers; 3.1 Introduction; 3.2 Linear Discriminant Functions and Decision Hyperplanes; 3.3 The Perceptron Algorithm: 3.4 Least Squares Methods: 3.5 Mean Square Estimation Revisited: 3.6 Logistic Discrimination: 3.7 Support Vector Machines: 3.8 Problems: References: Chapter 4 Nonlinear Classifiers: 4.1 Introduction; 4.2 The XOR Problem; 4.3 The Two-Layer Perceptron; 4.4 Three-Layer Perceptrons; 4.5 Algorithms Based on Exact Classification of the Training Set; 4.6 The Back propagation Algorithm; 4.7 Variations on the Back propagation Theme 4.8 The Cost Function Choice 4.9 Choice of the Network Size; 4.10 A

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## Sommario/riassunto

This book considers classical and current theory and practice, of supervised, unsupervised and semi-supervised pattern recognition, to build a complete background for professionals and students of engineering. The authors, leading experts in the field of pattern recognition, have provided an up-to-date, self-contained volume encapsulating this wide spectrum of information. The very latest methods are incorporated in this edition: semi-supervised learning, combining clustering algorithms, and relevance feedback.

Thoroughly developed to include many more worked examples to give grea