1. Record Nr. UNINA9910806144503321

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Titolo	Knowledge-based clustering : from data to information granules / / Witold Pedrycz
Pubbl/distr/stampa	Hoboken, N.J., : Wiley, c2005
ISBN	9786610275472 9781280275470 1280275472 9780470243558 0470243554 9780471708599 0471708593 9780471708605 0471708607
Edizione	[1st ed.]
Descrizione fisica	1 online resource (336 p.)
Disciplina	006.3
Soggetti	Soft computing Granular computing Fuzzy systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"A Wiley-Interscience publication."
Nota di bibliografia	Includes bibliographical references (p. 297-313) and index.
Nota di contenuto	KNOWLEDGE-BASED CLUSTERING; Contents; Foreword; Preface; 1 Clustering and Fuzzy Clustering; 1.1 Introduction; 1.2 Basic Notions and Notation; 1.2.1 Types of Data; 1.2.2 Distance and Similarity; 1.3 Main Categories of Clustering Algorithms; 1.3.1 Hierarchical Clustering; 1.3.2 Objective Function-Based Clustering; 1.4 Clustering and Classification; 1.5 Fuzzy Clustering; 1.6 Cluster Validity; 1.7 Extensions of Objective Function-Based Fuzzy Clustering; 1.7.1 Augmented Geometry of Fuzzy Clusters: Fuzzy C Varieties; 1.7.2 Possibilistic Clustering; 1.7.3 Noise Clustering 1.8 Self-Organizing Maps and Fuzzy Objective Function-Based Clustering1.9 Conclusions; References; 2 Computing with Granular Information: Fuzzy Sets and Fuzzy Relations; 2.1 A Paradigm of

Granular Computing: Information Granules and Their Processing; 2.2 Fuzzy Sets as Human-Centric Information Granules; 2.3 Operations on Fuzzy Sets; 2.4 Fuzzy Relations; 2.5 Comparison of Two Fuzzy Sets; 2.6 Generalizations of Fuzzy Sets; 2.7 Shadowed Sets; 2.8 Rough Sets; 2.9 Granular Computing and Distributed Processing; 2.10 Conclusions; References; 3 Logic-Oriented Neurocomputing; 3.1 Introduction
3.2 Main Categories of Fuzzy Neurons3.2.1 Aggregative Neurons; 3.2.2 Referential (Reference) Neurons; 3.3 Architectures of Logic Networks; 3.4 Interpretation Aspects of the Networks; 3.5 Granular Interfaces of Logic Processing; 3.6 Conclusions; References; 4 Conditional Fuzzy Clustering; 4.1 Introduction; 4.2 Problem Statement: Context Fuzzy Sets and Objective Function; 4.3 The Optimization Problem; 4.4 Computational Considerations of Conditional Clustering; 4.5 Generalizations of the Algorithm Through the Aggregation Operator; 4.6 Fuzzy Clustering with Spatial Constraints; 4.7 Conclusions References5 Clustering with Partial Supervision; 5.1 Introduction; 5.2 Problem Formulation; 5.3 Design of the Clusters; 5.4 Experimental Examples; 5.5 Cluster-Based Tracking Problem; 5.6 Conclusions; References; 6 Principles of Knowledge-Based Guidance in Fuzzy Clustering; 6.1 Introduction; 6.2 Examples of Knowledge-Oriented Hints and Their General Taxonomy; 6.3 The Optimization Environment of Knowledge-Enhanced Clustering; 6.4 Quantification of Knowledge-Based Guidance Hints and Their Optimization; 6.5 Organization of the Interaction Process; 6.6 Proximity-Based Clustering (P-FCM)
6.7 Web Exploration and P-FCM6.8 Linguistic Augmentation of Knowledge-Based Hints; 6.9 Conclusions; References; 7 Collaborative Clustering; 7.1 Introduction and Rationale; 7.2 Horizontal and Vertical Clustering; 7.3 Horizontal Collaborative Clustering; 7.3.1 Optimization Details; 7.3.2 The Flow of Computing of Collaborative Clustering; 7.3.3 Quantification of the Collaborative Phenomenon of Clustering; 7.4 Experimental Studies; 7.5 Further Enhancements of Horizontal Clustering; 7.6 The Algorithm of Vertical Clustering; 7.7 A Grid Model of Horizontal and Vertical Clustering
7.8 Consensus Clustering

Sommario/riassunto

A comprehensive coverage of emerging and current technology dealing with heterogeneous sources of information, including data, design hints, reinforcement signals from external datasets, and related topicsCovers all necessary prerequisites, and if necessary,additional explanations of more advanced topics, to make abstract concepts more tangibleIncludes illustrative material andwell-known experimentsto offer hands-on experience