Record Nr. UNINA9910438045703321 Soft computing applications in optimization, control, and recognition / **Titolo** / Patricia Melin and Oscar Castillo (eds.) Pubbl/distr/stampa Heidelberg;; New York,: Springer, c2013 **ISBN** 9783642353239 3642353231 Edizione [1st ed. 2013.] Descrizione fisica 1 online resource (VIII, 344 p.) Collana Studies in fuzziness and soft computing;; 294 Altri autori (Persone) CastilloOscar <1959-> MelinPatricia <1962-> Disciplina 006.3 Intelligent control systems Soggetti Mathematical optimization Pattern perception Soft computing Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Bibliographic Level Mode of Issuance: Monograph Includes bibliographical references and index. Nota di bibliografia Nota di contenuto Part I Optimization Methods and Applications -- Part II Soft Computing in Intelligent Control Applications -- Part III Soft Computing in Pattern Recognition Applications -- Part IV Soft Computing: Theory and new Models. Soft computing includes several intelligent computing paradigms, like Sommario/riassunto fuzzy logic, neural networks, and bio-inspired optimization algorithms. This book describes the application of soft computing techniques to intelligent control, pattern recognition, and optimization problems. The book is organized in four main parts. The first part deals with natureinspired optimization methods and their applications. Papers included in this part propose new models for achieving intelligent optimization in different application areas. The second part discusses hybrid intelligent systems for achieving control. Papers included in this part make use of nature-inspired techniques, like evolutionary algorithms, fuzzy logic and neural networks, for the optimal design of intelligent controllers for different kind of applications. Papers in the third part

> focus on intelligent techniques for pattern recognition and propose new methods to solve complex pattern recognition problems. The

fourth part discusses new theoretical concepts and methods for the application of soft computing to many different areas, such as natural language processing, clustering and optimization.