Record Nr. UNINA9910299471903321 Soft Computing Techniques in Engineering Applications / / edited by **Titolo** Srikanta Patnaik, Baojiang Zhong Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2014 **ISBN** 3-319-04693-4 Edizione [1st ed. 2014.] 1 online resource (VI, 206 p. 134 illus., 57 illus. in color.) Descrizione fisica Collana Studies in Computational Intelligence, , 1860-949X;; 543 Disciplina 620.00285 Soggetti Computational intelligence Optical data processing Cognitive psychology Computational Intelligence Image Processing and Computer Vision Cognitive Psychology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Bibliographic Level Mode of Issuance: Monograph Nota di bibliografia Includes bibliographical references. Nota di contenuto From the Contents: Machine Vision Solutions in Automotive Industry Kinect Quality Enhancement for Triangular Mesh Reconstruction with a Medical Image Application -- Matlab GUI Package for Comparing Data Clustering Algorithms -- Multi Objective Line Symmetry Based Evolutionary Clustering Approach -- An Efficient Method for Contrast Enhancement of Digital Mammographic Images -- Simulation of Obstacle Detection and Speed Control for Autonomous Robotic Vehicle -- A Review of Global Path Planning Algorithms for Planar Navigation of Autonomous Underwater Robots. The Soft Computing techniques, which are based on the information Sommario/riassunto processing of biological systems are now massively used in the area of pattern recognition, making prediction & planning, as well as acting on the environment. Ideally speaking, soft computing is not a subject of homogeneous concepts and techniques; rather, it is an amalgamation of distinct methods that confirms to its guiding principle. At present, the main aim of soft computing is to exploit the tolerance for

imprecision and uncertainty to achieve tractability, robustness and low

solutions cost. The principal constituents of soft computing techniques are probabilistic reasoning, fuzzy logic, neuro-computing, genetic algorithms, belief networks, chaotic systems, as well as learning theory. This book covers contributions from various authors to demonstrate the use of soft computing techniques in various applications of engineering.