1. Record Nr. UNINA9910484253003321

Titolo	Computational Intelligence in Sensor Networks / / edited by Bijan Bihari Mishra, Satchidanand Dehuri, Bijaya Ketan Panigrahi, Ajit Kumar Nayak, Bhabani Shankar Prasad Mishra, Himansu Das
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2019
ISBN	3-662-57277-X
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (XIV, 488 p. 196 illus., 132 illus. in color.)
Collana	Studies in Computational Intelligence, , 1860-949X ; ; 776
Disciplina	006.3019
Soggetti	Computational intelligence Artificial intelligence Electrical engineering Computational Intelligence Artificial Intelligence Communications Engineering, Networks
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Distributed Query Processing Optimization in Wireless Sensor Network Using Articial Immune System -- Computational Intelligence Techniques for Localization in Static and Dynamic Wireless Sensor Networks- A Review -- Nature Inspired Algorithm Approach for the Development of an Energy Aware Model for Sensor Network -- Routing Protocols -- Distance based Enhanced Threshold Sensitive Stable Election routing Protocol for Heterogeneous Wireless Sensor Network.
Sommario/riassunto	This book discusses applications of computational intelligence in sensor networks. Consisting of twenty chapters, it addresses topics ranging from small-scale data processing to big data processing realized through sensor nodes with the help of computational approaches. Advances in sensor technology and computer networks have enabled sensor networks to evolve from small systems of large sensors to large nets of miniature sensors, from wired communications to wireless communications, and from static to dynamic network topology. In spite of these technological advances, sensor networks still

face the challenges of communicating and processing large amounts of imprecise and partial data in resource-constrained environments. Further, optimal deployment of sensors in an environment is also seen as an intractable problem. On the other hand, computational intelligence techniques like neural networks, evolutionary computation, swarm intelligence, and fuzzy systems are gaining popularity in solving intractable problems in various disciplines including sensor networks. The contributions combine the best attributes of these two distinct fields, offering readers a comprehensive overview of the emerging research areas and presenting first-hand experience of a variety of computational intelligence approaches in sensor networks.