1. Record Nr. UNINA9910788961703321 Integration of swarm intelligence and artificial neutral network **Titolo** [[electronic resource] /] / Satchidananda Dehuri, Susmita Ghosh, Sungbae Cho, editors Hackensack, N.J.; London,: World Scientific, 2011 Pubbl/distr/stampa **ISBN** 1-283-43330-3 9786613433305 981-4280-15-1 Descrizione fisica 1 online resource (352 p.) Collana Series in machine perception and artificial intelligence;; v. 78 Altri autori (Persone) DehuriSatchidananda **GhoshSusmita** ChoSung-Bae Disciplina 006.3 Soggetti Swarm intelligence Neural networks (Computer science) Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and indexes. Nota di contenuto Contents; Preface; Chapter 1 Swarm Intelligence and Neural Networks; 1.1. Introduction; 1.2. Swarm Intelligence; 1.2.1. Particle Swarm Optimization; 1.2.2. Ant Colony Optimization; 1.2.3. Bee Colony Optimization; 1.3. Neural Networks; 1.3.1. Evolvable Neural Network; 1.3.2. Higher Order Neural Network; 1.3.3. Pi ()-Sigma () Neural Networks; 1.3.4. Functional Link Artificial Neural Network; 1.3.5. Ridge Polynomial Neural Networks (RPNNs); 1.4. Summary and Discussion; References; Chapter 2 Neural Network and Swarm Intelligence for Data Mining; 2.1. Introduction; 2.2. Testbeds for Data Mining 2.2.1. Fisher Iris Data2.2.2. Pima - Diabetes Data; 2.2.3. Shuttle Data; 2.2.4. Classification Efficiency; 2.3. Neural Network for Data Mining; 2.3.1. Multi-Layer Perceptron (MLP); 2.3.2. Radial Basis Function Network; 2.4. Swarm Intelligence for Data Mining; 2.4.1. Ant Miner; 2.4.2. Artificial Bee Colony; 2.4.3. Particle Swarm Optimization; 2.5. Comparative Study; 2.6. Conclusions and Outlook; Acknowledgments; References; Chapter 3 Multi-Objective Ant Colony Optimization: A

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## Sommario/riassunto

This book provides a new forum for the dissemination of knowledge in both theoretical and applied research on swarm intelligence (SI) and artificial neural network (ANN). It accelerates interaction between the two bodies of knowledge and fosters a unified development in the next generation of computational model for machine learning. To the best of our knowledge, the integration of SI and ANN is the first attempt to integrate various aspects of both the independent research area into a single volume.