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Soggetti	Computational intelligence Algorithms Computer science—Mathematics Computer simulation Computational Intelligence Algorithm Analysis and Problem Complexity Mathematics of Computing Simulation and Modeling
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Nota di contenuto	Chapter 1. Particle Swarm Optimization of Morphological Filters for Electrocardiogram Baseline Drift Estimation -- Chapter 2. Detection of Breast Cancer using Fusion of MLO and CC View Features Through a Hybrid Technique Based on Binary Firefly algorithm and Optimum Path Forest Classification -- Chapter 3. Recommending Healthy Personalized Daily Menus – A Cuckoo Search based Hyper-Heuristic Approach -- Chapter 4. A Hybrid Bat-Inspired Algorithm for Power Transmission Expansion Planning on a Practical Brazilian Network -- Chapter 5. An Application of Binary Grey Wolf Optimizer (BGWO) variants for Unit Commitment Problem -- Chapter 6. Sensorineural hearing loss identification via discrete wavelet packet entropy and cat swarm optimization -- Chapter 7. Chaotic Variants of Grasshopper Optimisation Algorithm and their application to Protein Structure Prediction -- Chapter 8. Examination of Retinal Anatomical Structures – A Study with Spider Monkey Optimization Algorithm -- Chapter 9. Nature-Inspired Metaheuristics Search Algorithms for Solving the

Economic Load Dispatch Problem of Power System: A Comparative Study -- Chapter 10. Parallel-series System Optimization by Weighting Sum Methods and Nature-inspired Computing -- Chapter 11.  
Development of Artificial Neural Networks trained by Heuristic Algorithms for Prediction of Exhaust Emissions and Performance of a Diesel Engine Fuelled with Biodiesel Blends.

#### Sommario/riassunto

This book presents a cutting-edge research procedure in the Nature-Inspired Computing (NIC) domain and its connections with computational intelligence areas in real-world engineering applications. It introduces readers to a broad range of algorithms, such as genetic algorithms, particle swarm optimization, the firefly algorithm, flower pollination algorithm, collision-based optimization algorithm, bat algorithm, ant colony optimization, and multi-agent systems. In turn, it provides an overview of meta-heuristic algorithms, comparing the advantages and disadvantages of each. Moreover, the book provides a brief outline of the integration of nature-inspired computing techniques and various computational intelligence paradigms, and highlights nature-inspired computing techniques in a range of applications, including: evolutionary robotics, sports training planning, assessment of water distribution systems, flood simulation and forecasting, traffic control, gene expression analysis, antenna array design, and scheduling/dynamic resource management.