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Nota di bibliografia	Includes bibliographical references and author index.
Nota di contenuto	On Appropriate Refractoriness and Weight Increment in Incremental Learning.- Vector Generation and Operations in Neural Networks Computations.- Synaptic Scaling Balances Learning in a Spiking Model of Neocortex.- Can Two Hidden Layers Make a Difference.- Time Series Visualization Using Asymmetric Self-Organizing Map.- Intelligence Approaches Based Direct Torque Control of Induction Motor.- Classifier Ensembles Integration with Self-configuring Genetic Programming Algorithm.- A Multi-objective Proposal Based on Firefly Behaviour for Green Scheduling in Grid Systems.- A Framework for Derivative Free Algorithm Hybridization.- PSO-Tagger: A New Biologically Inspired Approach to the Part-of-Speech Tagging Problem.- Training Support Vector Machines with an Heterogeneous Particle Swarm Optimizer.

- Fitness Landscape-Based Characterisation of Nature-Inspired Algorithms.- Evolutionary Generation of Small Oscillating Genetic Networks.- Using Scout Particles to Improve a Predator-Prey Optimizer. - QR-DCA: A New Rough Data Pre-processing Approach for the Dendritic Cell Algorithm.- Convergence Rates of Evolutionary Algorithms for Quadratic Convex Functions with Rank-Deficient Hessian.- The Scale-Up Performance of Genetic Algorithms Applied to Group Decision Making Problems.- Using Genetic Programming to Estimate Performance of Computational Intelligence Models.- Multi-caste Ant Colony Algorithm for the Dynamic Traveling Salesperson Problem.- Generalized Information-Theoretic Measures for Feature Selection.- PCA Based Oblique Decision Rules Generating.- Cardinality Problem in Portfolio Selection.- Full and Semi-supervised k-Means Clustering Optimised by Class Membership Hesitation.- Defining Semantic Meta-hashtags for Twitter Classification.- Reinforcement Learning and Genetic Regulatory Network Reconstruction.- Nonlinear Predictive Control Based on Least Squares Support Vector Machines Hammerstein Models.- Particle Swarm Optimization with Transition Probability for Timetabling Problems.- A Consensus Approach for Combining Multiple Classifiers in Cost-Sensitive Bankruptcy Prediction. - On the Regularization Parameter Selection for Sparse Code Learning in Electrical Source Separation.- Region Based Fuzzy Background Subtraction Using Choquet Integral.- A Robust Fuzzy Adaptive Control Algorithm for a Class of Nonlinear Systems.- Disturbance Measurement Utilization in the Efficient MPC Algorithm with Fuzzy Approximations of Nonlinear Models.- Fast Submanifold Learning with Unsupervised Nearest Neighbors.- Using Carrillo-Lipman Approach to Speed up Simultaneous Alignment and Folding of RNA Sequences.- Large Scale Metabolic Characterization Using Flux Balance Analysis and Data Mining.- Automatic Procedures to Assist in Manual Review of Marine Species Distribution Maps.- Mining the Viability Profiles of Different Breast Cancer: A Soft Computing Perspective.- Image Representation and Processing Using Ternary Quantum Computing.- Firefly-Inspired Synchronization of Sensor Networks with Variable Period Lengths. - Phase Transitions in Fermionic Networks.- New Selection Schemes in a Memetic Algorithm for the Vehicle Routing Problem with Time Windows.- Classification Based on the Self-Organization of Child Patients with Developmental Dysphasia.- Similarity Analysis Based on Bose-Einstein Divergences for Financial Time Series.- Exploratory Text Analysis: Data-Driven versus Human Semantic Similarity Judgments. - Linear Support Vector Machines for Error Correction in Optical Data Transmission -- Windows of Driver Gaze Data: How Early and How Much for Robust Predictions of Driver Intent.- Particle Swarm Optimization for Auto-localization of Nodes in Wireless Sensor Networks.- Effective Rule-Based Multi-label Classification with Learning Classifier Systems.- Evolutionary Strategies Algorithm Based Approaches for the Linear Dynamic System Identification.- A Genetic Algorithm Approach for Minimizing the Number of Columnar Runs in a Column Store Table.- Shadow Detection in Complex Images Using Neural Networks: Application to Wine Grape Seed Segmentation -- Vector Generation and Operations in Neural Networks Computations. - Synaptic Scaling Balances Learning in a Spiking Model of Neocortex. - Can Two Hidden Layers Make a Difference.- Time Series Visualization Using Asymmetric Self-Organizing Map.- Intelligence Approaches Based Direct Torque Control of Induction Motor.- Classifier Ensembles Integration with Self-configuring Genetic Programming Algorithm.- A Multi-objective Proposal Based on Firefly Behaviour for Green Scheduling in Grid Systems.- A Framework for Derivative Free

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Sommario/riassunto

The book constitutes the refereed proceedings of the 11th International Conference on Adaptive and Natural Computing Algorithms, ICANNGA 2013, held in Lausanne, Switzerland, in April 2013. The 51 revised full papers presented were carefully reviewed and selected from a total of 91 submissions. The papers are organized in topical sections on neural

networks, evolutionary computation, soft computing, bioinformatics and computational biology, advanced computing, and applications.