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Nota di contenuto	Evolutionary Learning -- Modelling Behaviour Cycles for Life-Long Learning in Motivated Agents -- Breaking the Synaptic Dogma: Evolving a Neuro-inspired Developmental Network -- A New Approach to Adapting Control Parameters in Differential Evolution Algorithm -- A Novel Genetic Algorithm with Orthogonal Prediction for Global

Numerical Optimization -- Phylogeny Inference Using a Multi-objective Evolutionary Algorithm with Indirect Representation -- Evolved Look-Up Tables for Simulated DNA Controlled Robots -- Multi-objective Improvement of Software Using Co-evolution and Smart Seeding -- Policy Evolution with Grammatical Evolution -- A PSO Based Adaboost Approach to Object Detection -- Adaptive Non-uniform Distribution of Quantum Particles in mQSO -- Genetically Evolved Fuzzy Rule-Based Classifiers and Application to Automotive Classification -- Improving XCS Performance by Distribution -- Evolving an Ensemble of Neural Networks Using Artificial Immune Systems -- Improving the Performance and Scalability of Differential Evolution -- A Fuzzy-GA Decision Support System for Enhancing Postponement Strategies in Supply Chain Management -- Evolutionary Optimisation -- Solving the Delay-Constrained Capacitated Minimum Spanning Tree Problem Using a Dandelion-Encoded Evolutionary Algorithm -- Generalized Extremal Optimization for Solving Multiprocessor Task Scheduling Problem -- Improving NSGA-II Algorithm Based on Minimum Spanning Tree -- An Island Based Hybrid Evolutionary Algorithm for Optimization -- A Particle Swarm Optimization Based Algorithm for Fuzzy Bilevel Decision Making with Objective-Shared Followers -- Reference Point-Based Particle Swarm Optimization Using a Steady-State Approach -- Genetic Algorithm Based Methods for Identification of Health Risk Factors Aimed at Preventing Metabolic Syndrome -- Extremal Optimisation and Bin Packing -- Extremal Optimisation with a Penalty Approach for the Multidimensional Knapsack Problem -- A Generator for Multimodal Test Functions with Multiple Global Optima -- Choosing Leaders for Multi-objective PSO Algorithms Using Differential Evolution -- Comparison between Genetic Algorithm and Genetic Programming Performance for Photomosaic Generation -- Parameter Tuning of Real-Valued Crossover Operators for Statistics Preservation -- Hybrid Particle Swarm Optimization Based on Thermodynamic Mechanism -- Multiagent Evolutionary Algorithm for T-coloring Problem -- Non-photorealistic Rendering Using Genetic Programming -- Use of Local Ranking in Cellular Genetic Algorithms with Two Neighborhood Structures -- Information Theoretic Classification of Problems for Metaheuristics -- Task Decomposition for Optimization Problem Solving -- Discussion of Search Strategy for Multi-objective Genetic Algorithm with Consideration of Accuracy and Broadness of Pareto Optimal Solutions -- Discussion of Offspring Generation Method for Interactive Genetic Algorithms with Consideration of Multimodal Preference -- Solving Very Difficult Japanese Puzzles with a Hybrid Evolutionary-Logic Algorithm -- Joint Multicast Routing and Channel Assignment in Multiradio Multichannel Wireless Mesh Networks Using Simulated Annealing -- General Game Playing with Ants -- A Generalized Approach to Construct Benchmark Problems for Dynamic Optimization -- A Study on the Performance of Substitute Distance Based Approaches for Evolutionary Many Objective Optimization -- Performance Evaluation of an Adaptive Ant Colony Optimization Applied to Single Machine Scheduling -- Robust Optimization by ?-Ranking on High Dimensional Objective Spaces -- An Evolutionary Method for Natural Languageto SQL Translation -- Attributes of Dynamic Combinatorial Optimisation -- A Weighted Local Sharing Technique for Multimodal Optimisation -- Hybrid Learning -- Hybrid Genetic Programming for Optimal Approximation of High Order and Sparse Linear Systems -- Genetic Vector Quantizer Design on Reconfigurable Hardware -- Pattern Learning and Decision Making in a Photovoltaic System -- Using Numerical Simplification to Control Bloat in Genetic Programming -- Horn Query Learning with Multiple

Refinement -- Evolving Digital Circuits in an Industry Standard Hardware Description Language -- Parameterised Indexed FOR-Loops in Genetic Programming and Regular Binary Pattern Strings -- Hierarchical Fuzzy Control for the Inverted Pendulum over the Set of Initial Conditions -- Genetic Programming for Feature Ranking in Classification Problems -- Time Series Prediction with Evolved, Composite Echo State Networks -- Adaptive Systems -- Genetic Synthesis of Software Architecture -- Dual Phase Evolution and Self-organisation in Networks -- Heterogeneous Payoffs and Social Diversity in the Spatial Prisoner's Dilemma game -- Theoretical Issues in Evolutionary Computation -- Crossover Can Be Constructive When Computing Unique Input Output Sequences -- Real-World Applications of Evolutionary Computation Techniques -- Power Electronic Circuits Design: A Particle Swarm Optimization Approach -- Computational Intelligence in Radio Astronomy: Using Computational Intelligence Techniques to Tune Geodesy Models -- An Efficient Hybrid Algorithm for Optimization of Discrete Structures -- Evolutionary Multi-Objective Optimization for Biped Walking -- A Method for Assigning Men and Women with Good Affinity to Matchmaking Parties through Interactive Evolutionary Computation.

Sommario/riassunto

This volume constitutes the proceedings of the 7th International Conference on Simulated Evolution and Learning, SEAL 2008, held in Melbourne, Australia, during December 7-10, 2008. The 65 papers presented were carefully reviewed and selected from 140 submissions. The topics covered are evolutionary learning; evolutionary optimisation; hybrid learning; adaptive systems; theoretical issues in evolutionary computation; and real-world applications of evolutionary computation techniques.