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Nota di contenuto	EvoBIO Contributions -- Artificial Immune System for Classification of Cancer -- Pattern Search in Molecules with FANS: Preliminary Results -- Applying Memetic Algorithms to the Analysis of Microarray Data -- Gene Network Reconstruction Using a Distributed Genetic Algorithm with a Backprop Local Search -- Promoter Prediction with a GP-Automaton -- Chromosomal Breakpoint Detection in Human Cancer --

Discovering Haplotypes in Linkage Disequilibrium Mapping with an Adaptive Genetic Algorithm -- Genetic Algorithms for Gene Expression Analysis -- Comparison of AdaBoost and Genetic Programming for Combining Neural Networks for Drug Discovery -- Cross Validation Consistency for the Assessment of Genetic Programming Results in Microarray Studies -- Algorithms for Identification Key Generation and Optimization with Application to Yeast Identification -- Generalisation and Model Selection in Supervised Learning with Evolutionary Computation -- EvoCOP Contributions -- Genetic Algorithms on NK-Landscapes: Effects of Selection, Drift, Mutation, and Recombination -- Multilevel Heuristic Algorithm for Graph Partitioning -- Experimental Comparison of Two Evolutionary Algorithms for the Independent Set Problem -- New Ideas for Applying Ant Colony Optimization to the Probabilistic TSP -- An Experimental Comparison of Two Different Encoding Schemes for the Location of Base Stations in Cellular Networks -- Landscape State Machines: Tools for Evolutionary Algorithm Performance Analyses and Landscape/Algorithm Mapping -- Constrained Coverage Optimisation for Mobile Cellular Networks -- Combinations of Local Search and Exact Algorithms -- On Confidence Intervals for the Number of Local Optima -- Searching for Maximum Cliques with Ant Colony Optimization -- A Study of Greedy, Local Search, and Ant Colony Optimization Approaches for Car Sequencing Problems -- Evolutionary Computing for the Satisfiability Problem -- Guiding Single-Objective Optimization Using Multi-objective Methods -- A Genetic Algorithm for the Index Selection Problem -- A Template Approach to Producing Incremental Objective Cost Functions for Local Search Meta-heuristics -- Analyzing a Unified Ant System for the VRP and Some of Its Variants -- Adapting to Complexity During Search in Combinatorial Landscapes -- Search Space Analysis of the Linear Ordering Problem -- Ant Algorithms for the University Course Timetabling Problem with Regard to the State-of-the-Art -- EvoIASP Contributions -- Multiple Genetic Snakes for Bone Segmentation -- Mobile Robot Sensor Fusion Using Flies -- Anticipating Bankruptcy Reorganisation from Raw Financial Data Using Grammatical Evolution -- GAME-HDL: Implementation of Evolutionary Algorithms Using Hardware Description Languages -- Evolutionary Approach to Discovery of Classification Rules from Remote Sensing Images -- Hybrid Evolution Strategy-Downhill Simplex Algorithm for Inverse Light Scattering Problems -- Accurate L-Corner Measurement Using USEF Functions and Evolutionary Algorithms -- On Two Approaches to Image Processing Algorithm Design for Binary Images Using GP -- Restoration of Old Documents with Genetic Algorithms -- The Effectiveness of Cost Based Subtree Caching Mechanisms in Typed Genetic Programming for Image Segmentation -- Pixel Statistics and False Alarm Area in Genetic Programming for Object Detection -- EvoMUSART Contributions -- The Emergence of Social Learning in Artificial Societies -- Tabula Rasa: A Case Study in Evolutionary Curation -- MusicBlox: A Real-Time Algorithmic Composition System Incorporating a Distributed Interactive Genetic Algorithm -- Towards a Prehistory of Evolutionary and Adaptive Computation in Music -- ArtiE-Fract: The Artist’s Viewpoint -- Evolutionary Music and the Zipf-Mandelbrot Law: Developing Fitness Functions for Pleasant Music -- Genophone: Evolving Sounds and Integral Performance Parameter Mappings -- Genetic Improvisation Model A Framework for Real-Time Performance Environments -- On the Development of Critics in Evolutionary Computation Artists -- Genetic Algorithms for the Generation of Models with Micropopulations -- EvoROB Contributions -- Evolution of Collective Behavior in a Team of Physically Linked Robots -- Exploring the T-Maze: Evolving

Learning-Like Robot Behaviors Using CTRNNs -- Competitive Co-evolution of Predator and Prey Sensory-Motor Systems -- Evolving Spiking Neuron Controllers for Phototaxis and Phonotaxis -- Evolving Neural Networks for the Control of a Lenticular Blimp -- Evolving Symbolic Controllers -- Evolving Motion of Robots with Muscles -- Behavioural Plasticity in Autonomous Agents: A Comparison between Two Types of Controller -- EvoSTIM Contributions -- DNA Based Algorithms for Some Scheduling Problems -- Learning Action Strategies for Planning Domains Using Genetic Programming -- Routing Using Evolutionary Agents and Proactive Transactions.

Sommario/riassunto

This book constitutes the joint refereed proceedings of six workshops, EvoWorkshops 2003, held together with EuroGP 2003 in Essex, UK in April 2003. The 63 revised full papers presented were carefully reviewed and selected from a total of 109 submissions. In accordance with the six workshops covered , the papers are organized in topical sections on bioinformatics, combinatorial optimization, image analysis and signal processing, evolutionary music and art, evolutionary robotics, and scheduling and timetabling.