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Titolo	Applications of Evolutionary Computing [[electronic resource]] : EvoWorkshops 2008: EvoCOMNET, EvoFIN, EvoHOT, EvoIASP, EvoMUSART, EvoNUM, EvoSTOC, and EvoTransLog / / edited by Mario Giacobini, Anthony Brabazon, Stefano Cagnoni, Gianni A. Di Caro, Rolf Drechsler, Aniko Ekart, Anna I. Esparcia-Alcazar, Muddassar Farooq, Andreas Fink, Jon McCormack, Michael O'Neill, Juan Romero, Franz Rothlauf, Giovanni Squillero, Sima Uyar, Shengxiang Yang
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Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 4974
Disciplina	005.1
Soggetti	Artificial intelligence Computer science Computer programming Computers Computer networks Computer science—Mathematics Artificial Intelligence Theory of Computation Programming Techniques Computer Hardware Computer Communication Networks Mathematical Applications in Computer Science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	EvoCOMNET Contributions -- New Research in Nature Inspired Algorithms for Mobility Management in GSM Networks -- Adaptive Local Search for a New Military Frequency Hopping Planning Problem -- SS vs PBIL to Solve a Real-World Frequency Assignment Problem in GSM Networks -- Reconstruction of Networks from Their Betweenness

Centrality -- A Self-learning Optimization Technique for Topology
Design of Computer Networks -- A Comparative Study of Fuzzy
Inference Systems, Neural Networks and Adaptive Neuro Fuzzy
Inference Systems for Portscan Detection -- EvoFIN Contributions --
Evolutionary Single-Position Automated Trading -- Genetic
Programming in Statistical Arbitrage -- Evolutionary System for
Generating Investment Strategies -- Horizontal Generalization
Properties of Fuzzy Rule-Based Trading Models -- Particle Swarm
Optimization for Tackling Continuous Review Inventory Models --
Option Model Calibration Using a Bacterial Foraging Optimization
Algorithm -- A SOM and GP Tool for Reducing the Dimensionality of a
Financial Distress Prediction Problem -- Quantum-Inspired
Evolutionary Algorithms for Financial Data Analysis -- EvoHOT
Contributions -- Analysis of Reconfigurable Logic Blocks for Evolvable
Digital Architectures -- Analogue Circuit Control through Gene
Expression -- Discovering Several Robot Behaviors through Speciation
-- Architecture Performance Prediction Using Evolutionary Artificial
Neural Networks -- Evolving a Vision-Driven Robot Controller for Real-
World Indoor Navigation -- Evolving an Automatic Defect Classification
Tool -- Deterministic Test Pattern Generator Design -- An Evolutionary
Methodology for Test Generation for Peripheral Cores Via Dynamic FSM
Extraction -- Exploiting MOEA to Automatically Generate Test Programs
for Path-Delay Faults in Microprocessors -- EvoASP Contributions --
Evolutionary Object Detection by Means of Naïve Bayes Models
Estimation -- An Evolutionary Framework for Colorimetric
Characterization of Scanners -- Artificial Creatures for Object Tracking
and Segmentation -- Automatic Recognition of Hand Gestures with
Differential Evolution -- Optimizing Computed Tomographic
Angiography Image Segmentation Using Fitness Based Partitioning -- A
GA-Based Feature Selection Algorithm for Remote Sensing Images --
An Evolutionary Approach for Ontology Driven Image Interpretation --
Hybrid Genetic Algorithm Based on Gene Fragment Competition for
Polyphonic Music Transcription -- Classification of Seafloor Habitats
Using Genetic Programming -- Selecting Local Region Descriptors with
a Genetic Algorithm for Real-World Place Recognition -- Object
Detection Using Neural Networks and Genetic Programming -- Direct
3D Metric Reconstruction from Multiple Views Using Differential
Evolution -- Discrete Tomography Reconstruction through a New
Memetic Algorithm -- A Fuzzy Hybrid Method for Image Decomposition
Problem -- Triangulation Using Differential Evolution -- Fast Multi-
template Matching Using a Particle Swarm Optimization Algorithm for
PCB Inspection -- EvoMUSART Contributions -- A Generative
Representation for the Evolution of Jazz Solos -- Automatic Invention
of Fitness Functions with Application to Scene Generation --
Manipulating Artificial Ecosystems -- Evolved Diffusion Limited
Aggregation Compositions -- Scaffolding for Interactively Evolving
Novel Drum Tracks for Existing Songs -- AtomSwarm: A Framework for
Swarm Improvisation -- Using DNA to Generate 3D Organic Art Forms
-- Towards Music Fitness Evaluation with the Hierarchical SOM --
Evolutionary Pointillist Modules: Evolving Assemblages of 3D Objects --
An Artificial-Chemistry Approach to Generating Polyphonic Musical
Phrases -- Implicit Fitness Functions for Evolving a Drawing Robot --
Free Flight in Parameter Space: A Dynamic Mapping Strategy for
Expressive Free Impro -- Modelling Video Games' Landscapes by
Means of Genetic Terrain Programming - A New Approach for
Improving Users' Experience -- Virtual Constructive Swarm
Compositions and Inspirations -- New-Generation Methods in an
Interpolating EC Synthesizer Interface -- Composing Music with Neural

Networks and Probabilistic Finite-State Machines -- TransFormer #13: Exploration and Adaptation of Evolution Expressed in a Dynamic Sculpture -- EvoNUM Contributions -- Multiobjective Tuning of Robust PID Controllers Using Evolutionary Algorithms -- Truncation Selection and Gaussian EDA: Bounds for Sustainable Progress in High-Dimensional Spaces -- Scalable Continuous Multiobjective Optimization with a Neural Network-Based Estimation of Distribution Algorithm -- Cumulative Step Length Adaptation for Evolution Strategies Using Negative Recombination Weights -- Computing Surrogate Constraints for Multidimensional Knapsack Problems Using Evolution Strategies -- A Critical Assessment of Some Variants of Particle Swarm Optimization -- An Evolutionary Game-Theoretical Approach to Particle Swarm Optimisation -- A Hybrid Particle Swarm Optimization Algorithm for Function Optimization -- EvoSTOC Contributions -- Memory Based on Abstraction for Dynamic Fitness Functions -- A Memory Enhanced Evolutionary Algorithm for Dynamic Scheduling Problems -- Compound Particle Swarm Optimization in Dynamic Environments -- An Evolutionary Algorithm for Adaptive Online Services in Dynamic Environment -- EvoTHEORY Contributions -- A Study of Some Implications of the No Free Lunch Theorem -- Negative Slope Coefficient and the Difficulty of Random 3-SAT Instances -- EvoTRANSLOG Contributions -- A Memetic Algorithm for the Team Orienteering Problem -- Decentralized Evolutionary Optimization Approach to the p-Median Problem -- Genetic Computation of Road Network Design and Pricing Stackelberg Games with Multi-class Users -- Constrained Local Search Method for Bus Fleet Scheduling Problem with Multi-depot with Line Change -- Evolutionary System with Precedence Constraints for Ore Harbor Schedule Optimization.

Sommario/riassunto

Evolutionary computation (EC) techniques are efficient, nature-inspired planning and optimization methods based on the principles of natural evolution and genetics. Due to their efficiency and simple underlying principles, these methods can be used in the context of problem solving, optimization, and machine learning. A large and continuously increasing number of researchers and professionals make use of EC techniques in various application domains. This volume presents a careful selection of relevant EC examples combined with a thorough examination of the techniques used in EC. The papers in the volume illustrate the current state of the art in the application of EC and should help and inspire researchers and professionals to develop efficient EC methods for design and problem solving. All papers in this book were presented during EvoWorkshops 2008, which consisted of a range of workshops on application-oriented aspects of EC. Since 1998, EvoWorkshops has provided a unique opportunity for EC researchers to meet and discuss application aspects of EC and has served as an important link between EC research and its application in a variety of domains. During these ten years new workshops have arisen, some have disappeared, while others have matured to become conferences of their own, such as EuroGP in 2000, EvoCOP in 2004, and EvoBIO last year.
