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Titolo	Optimization techniques for solving complex problems // edited by Enrique Alba ... [et al.]
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ISBN	1-282-03076-0 9786612030765 0-470-41135-X 0-470-41134-1
Descrizione fisica	1 online resource (502 p.)
Collana	Wiley series on parallel and distributed computing ; ; 76
Classificazione	ST 200
Altri autori (Persone)	AlbaEnrique
Disciplina	004.01/51 511.352 519.6
Soggetti	Computer science - Mathematics Mathematical optimization Problem solving
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Part I: Methodologies for complex problem solving: Generating automatic projections by means of genetic programming -- Neural lazy local learning -- Optimization by using genetic algorithms with micropopulations -- Analyzing parallel cellular genetic algorithms -- Evaluating new advanced multiobjective metaheuristics -- Canonical metaheuristics for dynamic optimization problems -- Solving constrained optimization problems with hybrid evolutionary algorithms -- Optimization of time series using parallel, adaptive, and neural techniques -- Using reconfigurable computing to optimization of cryptographic algorithms -- Genetic algorithms, parallelism and reconfigurable hardware -- Divide and conquer: advanced techniques -- Tools for tree searches: branch-and-bound and A* algorithms -- Tools for tree searches: Dynamic programming -- Part II: Applications: Automatic search of behavior strategies in auctions -- Evolving rules for local time series prediction -- Metaheuristics in bioinformatics:

DNA sequencing and reconstruction -- Optimal location of antennae in telecommunication networks -- Optimization of image processing algorithms using FPGAs -- Application of cellular automata algorithms to the parallel simulation of laser dynamics -- Dense stereo disparity from an artificial life standpoint -- Exact, metaheuristic, and hybrid approaches to multidimensional knapsack problems -- Greedy seeding and problem-specific operators for GAs solution of strip packing problems -- Solving the KCT problem: large scale neighborhood search and solution merging -- Experimental study of GA-based schedulers in dynamic distributed computing environments -- Remote optimization service (ROS) -- Remote services for advanced problem optimization.

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### Sommario/riassunto

"Here, a team of international experts brings together core ideas for solving complex problems in optimization across a wide variety of real-world settings, including computer science, engineering, transportation, telecommunications, and bioinformatics. Part One: Covers methodologies for complex problem solving including genetic programming, neural networks, genetic algorithms, hybrid evolutionary algorithms, and more. Part Two: Delves into applications including DNA sequencing and reconstruction, location of antennae in telecommunication networks, metaheuristics, FPGAs, problems arising in telecommunication networks, image processing, time series prediction, and more. All chapters contain examples that illustrate the applications themselves as well as the actual performance of the algorithms. Optimization Techniques for Solving Complex Problems is a valuable resource for practitioners and researchers who work with optimization in real-world settings."--Publisher's description.

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