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Autore	Yang Xin-She
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Sommario/riassunto	This book presents a systematic approach to analyze nature-inspired algorithms. Beginning with an introduction to optimization methods and algorithms, this book moves on to provide a unified framework of mathematical analysis for convergence and stability. Specific nature-inspired algorithms include: swarm intelligence, ant colony optimization, particle swarm optimization, bee-inspired algorithms, bat algorithm, firefly algorithm, and cuckoo search. Algorithms are analyzed from a wide spectrum of theories and frameworks to offer insight to the main characteristics of algorithms and understand how and why they work for solving optimization problems. In-depth mathematical analyses are carried out for different perspectives, including complexity theory, fixed point theory, dynamical systems,

self-organization, Bayesian framework, Markov chain framework, filter theory, statistical learning, and statistical measures. Students and researchers in optimization, operations research, artificial intelligence, data mining, machine learning, computer science, and management sciences will see the pros and cons of a variety of algorithms through detailed examples and a comparison of algorithms.
