1.	Record Nr.	UNINA9910350214103321
	Titolo	Decision Science in Action [[electronic resource]] : Theory and Applications of Modern Decision Analytic Optimisation / / edited by Kusum Deep, Madhu Jain, Said Salhi
	Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2019
	ISBN	981-13-0860-8
	Edizione	[1st ed. 2019.]
	Descrizione fisica	1 online resource (276 pages)
	Collana	Asset Analytics, Performance and Safety Management, , 2522-5162
	Disciplina	658.403
	Soggetti	Operations research Statistics Operations Research/Decision Theory Operations Research, Management Science Statistics for Business, Management, Economics, Finance, Insurance
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Nota di bibliografia	Includes bibliographical references.
	Nota di contenuto	Chapter 1: Fraction-based optimization of the pbm antenna benchmarks -- Chapter 2: Benchmark function generators for single-objective robust optimisation algorithms -- Chapter 3: Convergence of gravitational search algorithm on linear and quadratic functions -- Chapter 4: An algorithm of multi-variant evolutionary synthesis of nonlinear models with real-valued chromosomes -- Chapter 5: An artificial bee colony based hyper-heuristic for the single machine order acceptance and scheduling problem -- Chapter 6: A new evolutionary optimization method based on center of mass -- Chapter 7: Adaptive artificial physics optimization algorithm with pd controller -- Chapter 8: Nsga-ii based decision-making in fuzzy multi-objective optimization of system reliability -- Chapter 9: Ga based task scheduling algorithm for efficient utilization of available resources in computational grid -- Chapter 10: Statistical feature analysis of thermal images from electrical equipment -- Chapter 11: Performance of sine-cosine algorithm on large-scale optimization problems -- Chapter 12: Necessary and sufficient optimality conditions for fractional interval valued optimization problems -- Chapter 13: Application of

constrained spider monkey optimization to solve portfolio optimization problem -- Chapter 14: Optimal configuration selection in reconfigurable manufacturing system -- Chapter 15: A comparative study of regularized long wave equations using collocation method with cubic b-spline -- Chapter 16: An enhanced fractal dimension based feature extraction for thermal face recognition -- Chapter 17: Seismic analysis of multistoried building with optimized damper properties -- Chapter 18: Effect of upper body motion on biped robot stability -- Chapter 19: Ant colony algorithm for routing alternate fuel vehicles in multi-depot vehicle routing problem -- Chapter 20: Semidefinite approximation of closed convex set.

Sommario/riassunto	This book provides essential insights into a range of newly developed numerical optimization techniques with a view to solving real-world problems. Many of these problems can be modeled as nonlinear optimization problems, but due to their complex nature, it is not always possible to solve them using conventional optimization theory. Accordingly, the book discusses the design and applications of non-conventional numerical optimization techniques, including the design of benchmark functions and the implementation of these techniques to solve real-world optimization problems. The book's twenty chapters examine various interesting research topics in this area, including: Pi fraction-based optimization of the Pantoja–Bretones–Martin (PBM) antenna benchmarks; benchmark function generators for single-objective robust optimization algorithms; convergence of gravitational search algorithms on linear and quadratic functions; and an algorithm for the multi-variant evolutionary synthesis of nonlinear models with real-valued chromosomes. Delivering on its promise to explore real-world scenarios, the book also addresses the seismic analysis of a multi-story building with optimized damper properties; the application of constrained spider monkey optimization to solve portfolio optimization problems; the effect of upper body motion on a bipedal robot's stability; an ant colony algorithm for routing alternate-fuel vehicles in multi-depot vehicle routing problems; enhanced fractal dimension-based feature extraction for thermal face recognition; and an artificial bee colony-based hyper-heuristic for the single machine order acceptance and scheduling problem. The book will benefit not only researchers, but also organizations active in such varied fields as Aerospace, Automotive, Biotechnology, Consumer Packaged Goods, Electronics, Finance, Business & Banking, Oil, Gas & Geosciences, and Pharma, to name a few.