

1. Record Nr.	UNINA9910299984903321
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Titolo	Modern Optimization with R [[electronic resource] /] / by Paulo Cortez
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2014
ISBN	3-319-08263-9
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (182 p.)
Collana	Use R!, , 2197-5736
Disciplina	519.502855133
Soggetti	Mathematical optimization R (Computer program language) Optimization Continuous Optimization Discrete Optimization
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	1. Introduction -- 2. R Basics -- 3. Blind Search -- 4. Local Search -- 5. Population-Based Search -- 6. Multi-Objective Optimization -- 7. Applications.
Sommario/riassunto	The goal of this book is to gather in a single document the most relevant concepts related to modern optimization methods, showing how such concepts and methods can be addressed using the open source, multi-platform R tool. Modern optimization methods, also known as metaheuristics, are particularly useful for solving complex problems for which no specialized optimization algorithm has been developed. These methods often yield high quality solutions with a more reasonable use of computational resources (e.g. memory and processing effort). Examples of popular modern methods discussed in this book are: simulated annealing; tabu search; genetic algorithms; differential evolution; and particle swarm optimization. This book is suitable for undergraduate and graduate students in Computer Science, Information Technology, and related areas, as well as data analysts interested in exploring modern optimization methods using R.