

1. Record Nr.	UNINA9910450440603321
Titolo	Applications of multi-objective evolutionary algorithms [[electronic resource] /] / editors, Carlos A. Coello Coello, Gary B. Lamont
Pubbl/distr/stampa	Singapore ; ; Hackensack, NJ, : World Scientific, c2004
ISBN	1-281-88084-1 9786611880842 981-256-779-8
Descrizione fisica	1 online resource (XXVII, 761 p.)
Collana	Advances in natural computation ; ; v. 1
Altri autori (Persone)	Coello CoelloCarlos A LamontGary B
Disciplina	519.3
Soggetti	Combinatorial optimization Evolutionary computation Electronic books.
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	FOREWORD; PREFACE; CONTENTS; CHAPTER 1 AN INTRODUCTION TO MULTI-OBJECTIVE EVOLUTIONARY ALGORITHMS AND THEIR APPLICATIONS; CHAPTER 2 APPLICATIONS OF MULTI-OBJECTIVE EVOLUTIONARY ALGORITHMS IN ENGINEERING DESIGN; CHAPTER 3 OPTIMAL DESIGN OF INDUSTRIAL ELECTROMAGNETIC DEVICES: A MULTIOBJECTIVE EVOLUTIONARY APPROACH; CHAPTER 4 GROUNDWATER MONITORING DESIGN: A CASE STUDY COMBINING EPSILON DOMINANCE ARCHIVING AND AUTOMATIC PARAMETERIZATION...; CHAPTER 5 USING A PARTICLE SWARM OPTIMIZER WITH A MULTI-OBJECTIVE SELECTION SCHEME TO DESIGN COMBINATIONAL LOGIC CIRCUITS CHAPTER 6 APPLICATION OF MULTI-OBJECTIVE EVOLUTIONARY ALGORITHMS IN AUTONOMOUS VEHICLES NAVIGATIONCHAPTER 7 AUTOMATING CONTROL SYSTEM DESIGN VIA A MULTIOBJECTIVE EVOLUTIONARY ALGORITHM; CHAPTER 8 THE USE OF EVOLUTIONARY ALGORITHMS TO SOLVE PRACTICAL PROBLEMS IN POLYMER EXTRUSION; CHAPTER 9 EVOLUTIONARY MULTI-OBJECTIVE OPTIMIZATION OF TRUSSES; CHAPTER 10 CITY AND REGIONAL PLANNING VIA A MOEA:

LESSONS LEARNED; CHAPTER 11 A MULTI-OBJECTIVE EVOLUTIONARY ALGORITHM FOR THE COVERING TOUR PROBLEM; CHAPTER 12 A COMPUTER ENGINEERING BENCHMARK APPLICATION FOR MULTIOBJECTIVE OPTIMIZERS  
CHAPTER 13 MULTIOBJECTIVE AERODYNAMIC DESIGN AND VISUALIZATION OF SUPERSONIC WINGS BY USING ADAPTIVE RANGE MULTIOBJECTIVE...CHAPTER 14 APPLICATIONS OF A MULTI-OBJECTIVE GENETIC ALGORITHM IN CHEMICAL AND ENVIRONMENTAL ENGINEERING; CHAPTER 15 MULTI-OBJECTIVE SPECTROSCOPIC DATA ANALYSIS OF INERTIAL CONFINEMENT FUSION IMPLOSION CORES: PLASMA GRADIENT...; CHAPTER 16 APPLICATION OF MULTIOBJECTIVE EVOLUTIONARY OPTIMIZATION ALGORITHMS IN MEDICINE; CHAPTER 17 ON MACHINE LEARNING WITH MULTIOBJECTIVE GENETIC OPTIMIZATION; CHAPTER 18 GENERALIZED ANALYSIS OF PROMOTERS: A METHOD FOR DNA SEQUENCE DESCRIPTION  
CHAPTER 19 MULTI-OBJECTIVE EVOLUTIONARY ALGORITHMS FOR COMPUTER SCIENCE APPLICATIONSCHAPTER 20 DESIGN OF FLUID POWER SYSTEMS USING A MULTI OBJECTIVE GENETIC ALGORITHM; CHAPTER 21 ELIMINATION OF EXCEPTIONAL ELEMENTS IN CELLULAR MANUFACTURING SYSTEMS USING MULTI-OBJECTIVE GENETIC ALGORITHMS; CHAPTER 22 SINGLE-OBJECTIVE AND MULTI-OBJECTIVE EVOLUTIONARY FLOWSHOP SCHEDULING; CHAPTER 23 EVOLUTIONARY OPERATORS BASED ON ELITE SOLUTIONS FOR BI-OBJECTIVE COMBINATORIAL OPTIMIZATION; CHAPTER 24 MULTI-OBJECTIVE RECTANGULAR PACKING PROBLEM  
CHAPTER 25 MULTI-OBJECTIVE ALGORITHMS FOR ATTRIBUTE SELECTION IN DATA MININGCHAPTER 26 FINANCIAL APPLICATIONS OF MULTI-OBJECTIVE EVOLUTIONARY ALGORITHMS: RECENT DEVELOPMENTS AND FUTURE RESEARCH...; CHAPTER 27 EVOLUTIONARY MULTI-OBJECTIVE OPTIMIZATION APPROACH TO CONSTRUCTING NEURAL NETWORK ENSEMBLES FOR REGRESSION; CHAPTER 28 OPTIMIZING FORECAST MODEL COMPLEXITY USING MULTI-OBJECTIVE EVOLUTIONARY ALGORITHMS; CHAPTER 29 EVEN FLOW SCHEDULING PROBLEMS IN FOREST MANAGEMENT; CHAPTER 30 USING DIVERSITY TO GUIDE THE SEARCH IN MULTI-OBJECTIVE OPTIMIZATION; INDEX

---

#### Sommario/riassunto

This book presents an extensive variety of multi-objective problems across diverse disciplines, along with statistical solutions using multi-objective evolutionary algorithms (MOEAs). The topics discussed serve to promote a wider understanding as well as the use of MOEAs, the aim being to find good solutions for high-dimensional real-world design applications. The book contains a large collection of MOEA applications from many researchers, and thus provides the practitioner with detailed algorithmic direction to achieve good results in their selected problem domain.

---