Genetic Algorithms + Data Structures = Evolution Programs

Zbigniew Michalewicz
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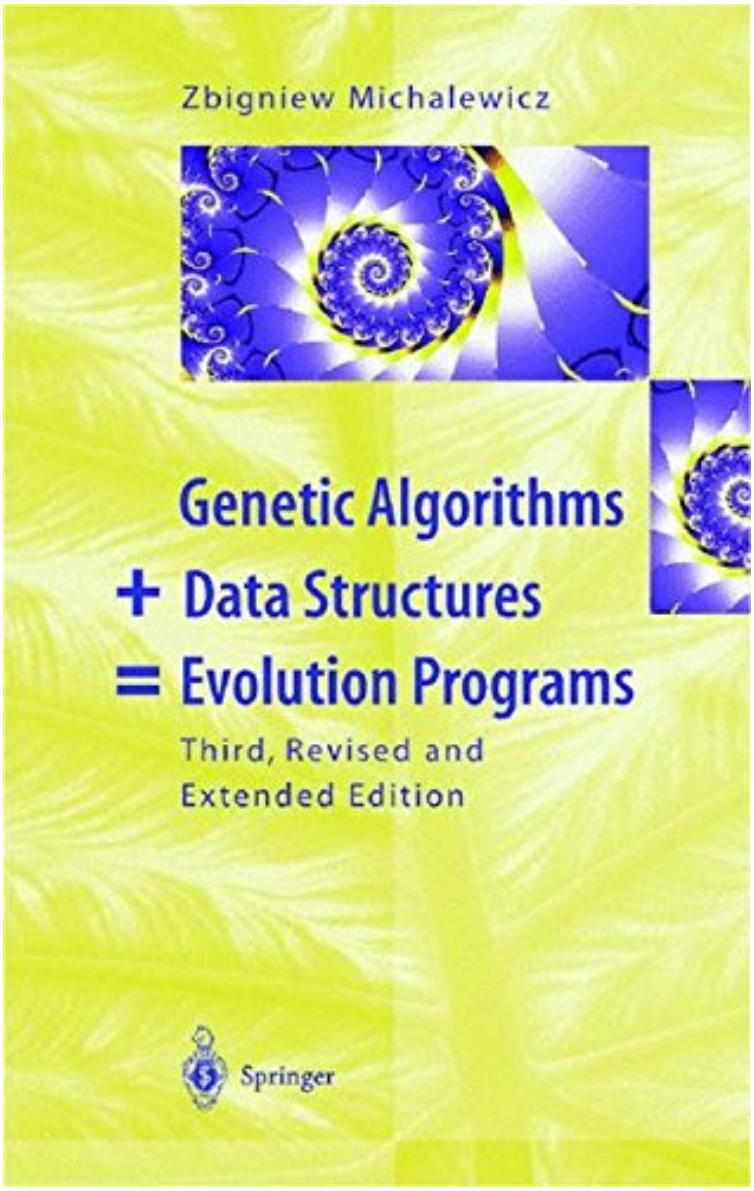

#1201625 in Books Springer 1996Ingredients: Example IngredientsOriginal language:EnglishPDF # 1 9.54 x 1.00 x 6.39l, 1.56 #File Name: 3540606769387 pages | File size: 25.Mb

Zbigniew Michalewicz : Genetic Algorithms + Data Structures = Evolution Programs before purchasing it in order to gage whether or not it would be worth my time, and all praised Genetic Algorithms + Data Structures = Evolution Programs:

0 of 0 people found the following review helpful. Concise roadmap.By JoelBroad overview of both classic genetic programming and the newer evolution programming on a large set of real world problems.19 of 23 people found the

following review helpful. Not a good overview text of the subject.By J. W. SheppardI used this book as the primary text for a graduate course on evolutionary computation. I was looking for a book that provided a good introduction to genetic algorithms and provided a wide cross-section of related algorithms and applications. At the time, this was the only book of its type on the market (other than Goldberg's book). The first couple of chapters (What is a GA, Why Does a GA Work) were pretty good, but then the strong focus of the remainder of the book on numerical optimization resulted in a loss of interest on the part of my students. Since then, I have had to re-organize the class to provide topics such as genetic programming, evolving neural systems, co-evolution, and artificial life -- none of which are covered adequately (if at all) in this book.3 of 3 people found the following review helpful. could GA get possibly any eaiser to understand???By Maximus MeridiusI saw this book once with one of my buddies,and read the first chapter,,,it was after looking up the first chapter i decided to buy it...I have read some other books on this topic,and since i was kinda in rush for a project which needed GA,i found no other book which explains the concepts and procedures, this straightforward and "right to the point".As far as writing this book goes, "Michalewicz" has done a really really great job.Go for it guys!!!cheers,Amir

Genetic algorithms are founded upon the principle of evolution, i.e., survival of the fittest. Hence evolution programming techniques, based on genetic algorithms, are applicable to many hard optimization problems, such as optimization of functions with linear and nonlinear constraints, the traveling salesman problem, and problems of scheduling, partitioning, and control. The importance of these techniques is still growing, since evolution programs are parallel in nature, and parallelism is one of the most promising directions in computer science.The book is self-contained and the only prerequisite is basic undergraduate mathematics. This third edition has been substantially revised and extended by three new chapters and by additional appendices containing working material to cover recent developments and a change in the perception of evolutionary computation.

.com Zbigniew Michalewicz's Genetic Algorithms + Data Structures = Evolution Programs has three sections. The first section is a straightforward introduction to genetic algorithms. In the second section, Michalewicz describes how to apply genetic algorithms to numerical optimization. Michalewicz, who is a pioneer in this field, discusses the rationale for using genetic algorithms for numerical optimization and describes several experiments that show how this new type of genetic algorithm performs. The author devotes the third section of the book to evolution programs.From the Back CoverGenetic algorithms are founded upon the principle of evolution, i.e., survival of the fittest. Hence evolution programming techniques, based on genetic algorithms, are applicable to many hard optimization problems, such as optimization of functions with linear and nonlinear constraints, the traveling salesman problem, and problems of scheduling, partitioning, and control. The importance of these techniques is still growing, since evolution programs are parallel in nature, and parallelism is one of the most promising directions in computer science. The aim of this book is to talk about the field of evolutionary computation in simple terms, and discuss the simplicity and elegance of its methods on many interesting test cases. The book may serve as a guide to writing an evolution program, and to making this an enjoyable experience. It is self-contained and the only prerequisite is basic undergraduate mathematics. Aimed at researchers, practitioners, and graduate students, it may serve as a text for advanced courses in computer science and artificial intelligence, operations research, and engineering. This third edition has been substantially revised and extended. Three new chapters discuss the recent paradigm of genetic programming, heuristic methods and constraint handling, and current directions of research. Additional appendices contain test functions for experiments with evolutionary techniques and discuss possible projects for use in a project-oriented course.