



# Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems

By Sadiq M. Sait, Habib Youssef

Download now

Read Online 

## Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems By Sadiq M. Sait, Habib Youssef

Iterative Computer Algorithms with Applications in Engineering describes in-depth the five main iterative algorithms for solving hard combinatorial optimization problems: Simulated Annealing, Genetic Algorithms, Tabu Search, Simulated Evolution, and Stochastic Evolution. The authors present various iterative techniques and illustrate how they can be applied to solve several NP-hard problems.

For each algorithm, the authors present the procedures of the algorithm, parameter selection criteria, convergence property analysis, and parallelization. There are also several real-world examples that illustrate various aspects of the algorithms. The book includes an introduction to fuzzy logic and its application in the formulation of multi-objective optimization problems, a discussion on hybrid techniques that combine features of heuristics, a survey of recent research work, and examples that illustrate required mathematical concepts.

The unique features of this book are: An integrated and up-to-date description of iterative non-deterministic algorithms; Detailed descriptions of Simulated Evolution and Stochastic Evolution; A level of treatment suitable for first year graduate student and practicing engineers; Parallelization aspects and particular parallel implementations; A brief survey of recent research work; Graded exercises and an annotated bibliography in each chapter

 [Download Iterative Computer Algorithms with Applications in ...pdf](#)

 [Read Online Iterative Computer Algorithms with Applications ...pdf](#)

# **Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems**

*By Sadiq M. Sait, Habib Youssef*

## **Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems** By Sadiq M. Sait, Habib Youssef

Iterative Computer Algorithms with Applications in Engineering describes in-depth the five main iterative algorithms for solving hard combinatorial optimization problems: Simulated Annealing, Genetic Algorithms, Tabu Search, Simulated Evolution, and Stochastic Evolution. The authors present various iterative techniques and illustrate how they can be applied to solve several NP-hard problems.

For each algorithm, the authors present the procedures of the algorithm, parameter selection criteria, convergence property analysis, and parallelization. There are also several real-world examples that illustrate various aspects of the algorithms. The book includes an introduction to fuzzy logic and its application in the formulation of multi-objective optimization problems, a discussion on hybrid techniques that combine features of heuristics, a survey of recent research work, and examples that illustrate required mathematical concepts.

The unique features of this book are: An integrated and up-to-date description of iterative non-deterministic algorithms; Detailed descriptions of Simulated Evolution and Stochastic Evolution; A level of treatment suitable for first year graduate student and practicing engineers; Parallelization aspects and particular parallel implementations; A brief survey of recent research work; Graded exercises and an annotated bibliography in each chapter

## **Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems** By Sadiq M. Sait, Habib Youssef **Bibliography**

- Sales Rank: #4023021 in Books
- Brand: Brand: Wiley-IEEE Computer Society Pr
- Published on: 2000-02-10
- Ingredients: Example Ingredients
- Original language: English
- Number of items: 1
- Dimensions: 9.07" h x 1.01" w x 5.98" l, 1.38 pounds
- Binding: Paperback
- 410 pages

 [Download Iterative Computer Algorithms with Applications in ...pdf](#)

 [Read Online Iterative Computer Algorithms with Applications ...pdf](#)



---

**Download and Read Free Online Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems By Sadiq M. Sait, Habib Youssef**

---

## **Editorial Review**

### **From the Back Cover**

Iterative Computer Algorithms with Applications in Engineering describes in-depth the five main iterative algorithms for solving hard combinatorial optimization problems: Simulated Annealing, Genetic Algorithms, Tabu Search, Simulated Evolution, and Stochastic Evolution. The authors present various iterative techniques and illustrate how they can be applied to solve several NP-hard problems.

For each algorithm, the authors present the procedures of the algorithm, parameter selection criteria, convergence property analysis, and parallelization. There are also several real-world examples that illustrate various aspects of the algorithms. The book includes an introduction to fuzzy logic and its application in the formulation of multi-objective optimization problems, a discussion on hybrid techniques that combine features of heuristics, a survey of recent research work, and examples that illustrate required mathematical concepts.

The unique features of this book are: An integrated and up-to-date description of iterative non-deterministic algorithms; Detailed descriptions of Simulated Evolution and Stochastic Evolution; A level of treatment suitable for first year graduate student and practicing engineers; Parallelization aspects and particular parallel implementations; A brief survey of recent research work; Graded exercises and an annotated bibliography in each chapter

### **About the Author**

Sadiq M. Sait obtained a Bachelor's degree in Electronics from Bangalore University, India, in 1981, and master's and Ph.D. degrees in Electrical Engineering from King Fahd University of Petroleum and Minerals (KFUPM), Dhahran, in 1983 and 1987, respectively. He is currently a professor in the Department of Computer Engineering of KFUPM. Sait has authored over 85 research papers in international journals and conferences. He is coauthor of the book VLSI Physical Design Automation: Theory and Practice, published in January 1995. He has also contributed two chapters to a book entitled Progress in VLSI design. He served on the editorial board of International Journal of Computer-Aided Design between 1988 and 1990. Currently he is the editor of Arabian Journal for Science and Engineering for Computer Science & Engineering. His current areas of interest are in digital design automation, VLSI system design, high-level synthesis, and iterative algorithms.

Habib Youssef received a Diplome d'Ingenieur en Informatique from the Faculté des Sciences de Tunis in 1982 and a Ph.D. in Computer Science from the University of Minnesota in 1990. He is currently an Associate Professor of Computer Engineering at King Fahd University of Petroleum and Minerals, Saudi Arabia. Youssef has authored more than 45 journal and conference papers. He is the coauthor of the book VLSI Physical Design Automation: Theory and Practice, January 1995. His main research interests are CAD of VLSI, computer networks, and performance evaluation of computer systems, and general stochastic and evolutionary algorithms.

## **Users Review**

### **From reader reviews:**

**Mary Ayala:**

Reading can be called brain hangout, why? Because if you find yourself reading a book specially book entitled Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems your thoughts will drift away through every dimension, wandering in every aspect that maybe unidentified for but surely will become your mind friends. Imaging just about every word written in a e-book then become one web form conclusion and explanation this maybe you never get previous to. The Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems giving you an additional experience more than blown away your brain but also giving you useful information for your better life within this era. So now let us demonstrate the relaxing pattern is your body and mind are going to be pleased when you are finished reading it, like winning a casino game. Do you want to try this extraordinary wasting spare time activity?

**Mary Barrientes:**

Do you have something that you prefer such as book? The guide lovers usually prefer to choose book like comic, short story and the biggest the first is novel. Now, why not seeking Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems that give your entertainment preference will be satisfied through reading this book. Reading routine all over the world can be said as the way for people to know world a great deal better than how they react toward the world. It can't be stated constantly that reading habit only for the geeky particular person but for all of you who wants to become success person. So , for all of you who want to start looking at as your good habit, you are able to pick Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems become your current starter.

**Shirley Henderson:**

Do you one of the book lovers? If yes, do you ever feeling doubt while you are in the book store? Try to pick one book that you just don't know the inside because don't assess book by its protect may doesn't work here is difficult job because you are afraid that the inside maybe not since fantastic as in the outside appearance likes. Maybe your answer may be Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems why because the fantastic cover that make you consider with regards to the content will not disappoint you. The inside or content will be fantastic as the outside as well as cover. Your reading sixth sense will directly show you to pick up this book.

**Jeff Brown:**

That reserve can make you to feel relax. That book Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems was colourful and of course has pictures on the website. As we know that book Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems has many kinds or variety. Start from kids until adolescents. For example Naruto or Detective Conan you can read and believe that you are the character on there. Therefore , not at all of book are generally make you bored, any it offers up you feel happy, fun and chill out. Try to choose the best book in your case and try to like reading in which.

**Download and Read Online Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems By Sadiq M. Sait, Habib Youssef #POXH2WRNE8B**

# **Read Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems By Sadiq M. Sait, Habib Youssef for online ebook**

Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems By Sadiq M. Sait, Habib Youssef Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems By Sadiq M. Sait, Habib Youssef books to read online.

## **Online Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems By Sadiq M. Sait, Habib Youssef ebook PDF download**

**Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems By Sadiq M. Sait, Habib Youssef Doc**

**Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems By Sadiq M. Sait, Habib Youssef MobiPocket**

**Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems By Sadiq M. Sait, Habib Youssef EPub**

**POXH2WRNE8B: Iterative Computer Algorithms with Applications in Engineering: Solving Combinatorial Optimization Problems By Sadiq M. Sait, Habib Youssef**