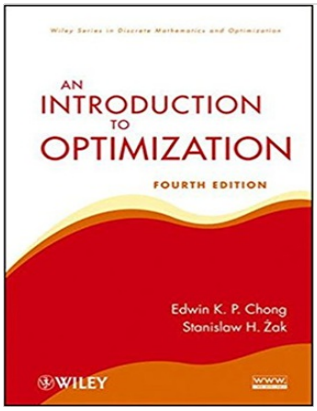
Book Information Sheet



An Introduction to Optimization 4th Edition

Edwin K. P. Chong & Stanislaw H. Zak

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About the Book

Praise for the Third Edition ". . . guides and leads the reader through the learning path . . . [e]xamples are stated very clearly and the results are presented with attention to detail." —MAA Reviews

Fully updated to reflect new developments in the field, the Fourth Edition of Introduction to Optimization fills the need for accessible treatment of optimization theory and methods with an emphasis on engineering design. Basic definitions and notations are provided in addition to the related fundamental background for linear algebra, geometry, and calculus.

This new edition explores the essential topics of unconstrained optimization problems, linear programming problems, and nonlinear constrained optimization. The authors also present an optimization perspective on global search methods and include discussions on genetic algorithms, particle swarm optimization, and the simulated annealing algorithm. Featuring an elementary introduction to artificial neural networks, convex optimization, and multi-objective optimization, the Fourth Edition also offers:

A new chapter on integer programming
Expanded coverage of one-dimensional methods
Updated and expanded sections on linear matrix inequalities
Numerous new exercises at the end of each chapter
MATLAB exercises and drill problems to reinforce the discussed theory and algorithms
Numerous diagrams and figures that complement the written presentation of key concepts
MATLAB M-files for implementation of the discussed theory and algorithms (available via the book's website)

Introduction to Optimization, Fourth Edition is an ideal textbook for courses on optimization theory and methods. In addition, the book is a useful reference for professionals in mathematics, operations research, electrical engineering, economics, statistics, and business.

About the Author

Edwin K. P. Chong :-

Professor of Electrical and Computer Engineering as well as Professor of Mathematics at Colorado State University. He is a Fellow of the IEEE and Senior Editor of IEEE Transactions on Automatic Control.

Stanislaw H. Zak :-

Professor in the School of Electrical and Computer Engineering at Purdue University. He is former associate editor of Dynamics and Control and IEEE Transactions on Neural Networks