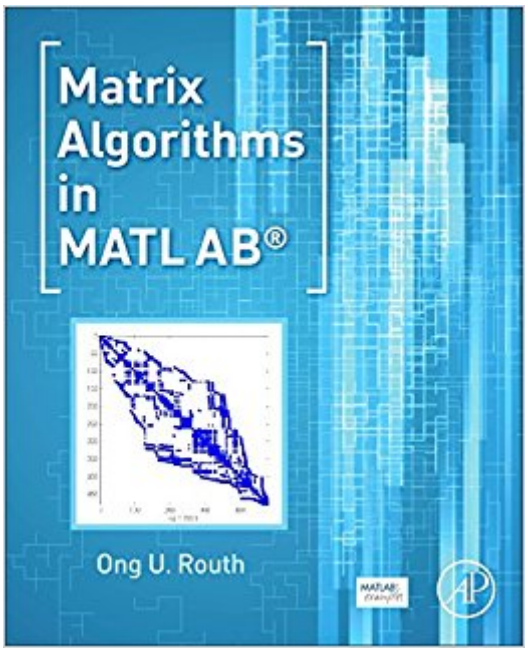
Matrix Algorithms In MATLAB



Synopsis

Matrix Algorithms in MATLAB focuses on the MATLAB code implementations of matrix algorithms. The MATLAB codes presented in the book are tested with thousands of runs of MATLAB randomly generated matrices, and the notation in the book follows the MATLAB style to ensure a smooth transition from formulation to the code, with MATLAB codes discussed in this book kept to within 100 lines for the sake of clarity. The book provides an overview and classification of the interrelations of various algorithms, as well as numerous examples to demonstrate code usage and the properties of the presented algorithms. Despite the wide availability of computer programs for matrix computations, it continues to be an active area of research and development. New applications, new algorithms, and improvements to old algorithms are constantly emerging. Presents the first book available on matrix algorithms implemented in real computer codeProvides algorithms covered in three parts, the mathematical development of the algorithm using a simple example, the code implementation, and then numerical examples using the code Allows readers to gain a quick understanding of an algorithm by debugging or reading the source codeIncludes downloadable codes on an accompanying companion website, www.matrixalgorithmsinmatlab.com, that can be used in other software development

Book Information

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Customer Reviews

"After a brief mathematical exposure, the algorithm is presented through the use of real computer codes. This ensures a better understanding of how an algorithm works, than by only studying their pseudo-codes as happens in classical algorithmic books." --Zentralblatt MATH, Matrix Algorithms in

MATLAB

In 1989, Dr. Ong U. Routh studied computational mechanics and obtained a PhD degree in Tsinghua University, China. In 1991, he worked as a researcher in Osaka University, Japan, developing finite element software for the numerical simulation of sheet metal forming. Since 1999, he has conducted many industrial software projects for the analysis of structures and multi-bodies systems. His career interest is in the research and implementation of numerical algorithms that is directly used to solve engineering problems, such as finite element analysis, multi rigid bodies analysis, differential equations and matrix computations.

This is one of the best books I ever read in terms of matrix calculation and operation. Nearly all of kernel matrix technology is covered, such as matrix decomposition, linear equation solving, eigenvalue problem solving, singular value decomposition, etc. If you are looking for a nice tutorial/book comprehensively talking about matrix calculation, that it is!The book is detailed oriented, the complicated mathematical algorithms are well explained and nicely presented to readers. The content is well-organized, author teaches you from the fundamental to the intermediate knowledge. Massive examples are given in the book to help you better understanding the details. The learning curve of this book is flat and smooth, you wonÃ¢Â Â™t be frustrated during learning such challenging subject.The book uses Matlab language to demonstrate the algorithms, which is thoughtful for readers from different backgrounds. You do not have to study another difficult programming language such as C++ before starting the journey of matrix exploration. The book gives concise Matlab code, the reader also can obtain the full version of source code to run, test, and learn.

I am a computer science student. This book is very useful to my algorithm course. It includes detailed discussions of all the matrix algorithms taught in my class. The presentations are unique compared to other books in that short MATLAB codes and examples are included. I found debugging the MATLAB codes really speeds up my learn curve.

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