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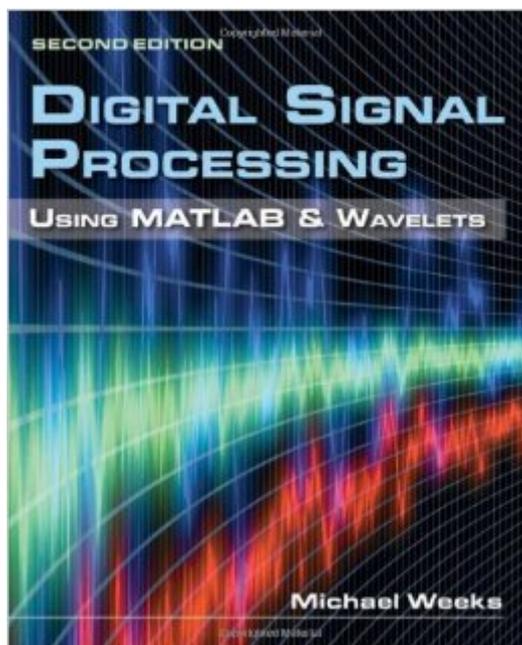
Digital Signal Processing Using MATLAB & Wavelets

Synopsis

Although Digital Signal Processing (DSP) has long been considered an electrical engineering topic, recent developments have also generated significant interest from the computer science community. DSP applications in the consumer market, such as bioinformatics, the MP3 audio format, and MPEG-based cable/satellite television have fueled a desire to understand this technology outside of hardware circles. Designed for upper division engineering and computer science students as well as practicing engineers and scientists, Digital Signal Processing Using MATLAB & Wavelets, Second Edition emphasizes the practical applications of signal processing. Over 100 MATLAB examples and wavelet techniques provide the latest applications of DSP, including image processing, games, filters, transforms, networking, parallel processing, and sound. This Second Edition also provides the mathematical processes and techniques needed to ensure an understanding of DSP theory. Designed to be incremental in difficulty, the book will benefit readers who are unfamiliar with complex mathematical topics or those limited in programming experience. Beginning with an introduction to MATLAB programming, it moves through filters, sinusoids, sampling, the Fourier transform, the z-transform and other key topics. Two chapters are dedicated to the discussion of wavelets and their applications. A CD-ROM (platform independent) accompanies every new printed copy of the book and contains source code, projects for each chapter, and the figures from the book. (eBook version does not include the CD-ROM)

Book Information

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Customer Reviews

This book is very readable and is chock-full of examples, sample code and explanations of DSP concepts. I think the best way to read it is to start with Chapters 1-2, which give an introduction to DSP and an overview of MatLab. Then, immediately follow this with Chapter 10, which covers applications. Subsequent chapters can be read as needed.

one of very few books on the subject that has this excellent pedagogical approach.the wavelets are also introduced without painful mathematics, very well done.compine this book with DSP primer from Ken steiglitz and you will be solidly founded.highly recommended for any body seeks to learn DSP basics with matlab.

Digital signal processing is a tough area of study for two reasons. First, there's lots of math involved and you need more than just knowledge of it - you need a certain degree of intuition and insight in order to learn DSP successfully. On the other hand, mathematical proofs are not nearly enough for good implementation of the algorithms.Because of how computers work, different ways of computing things give us different performance ratings. The simplest example is using FFT instead of DFT. The concept is the same, but the amount of computational power it saves is unprecedented. Therefore, you need to know not only how to derive a few methods for calculating different filter responses, but also how to implement them, so they take the least mathematical operations. Once you start using MATLAB for serious and large-scale applications, it becomes very obvious.If you're the practical type (as opposed to a purely theoretical type) and want (or need) to know how to make stuff not just work, but also work well, this book will get you started in no time!

Digital Signal Processing using MATLAB and Wavelets provides a gentle introduction to topics in DSP and gives easy MATLAB examples to get you up and running right away. The thing I like best is that it is written in plain English with a liberal amount of diagrams to help you follow. The author's voice comes through and you get the sense that you're being guided through the subject instead of reading a mathematical reference.

MATLAB - Programming with MATLAB for Beginners - A Practical Introduction to Programming and Problem Solving (Matlab for Engineers, MATLAB for Scientists, Matlab Programming for Dummies) Digital Signal Processing Using MATLAB & Wavelets Conceptual Wavelets in Digital Signal Processing Student Manual for Digital Signal Processing using MATLAB Fundamentals of Digital Signal Processing Using MATLAB Multidimensional Digital Signal Processing (Prentice-Hall Signal

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