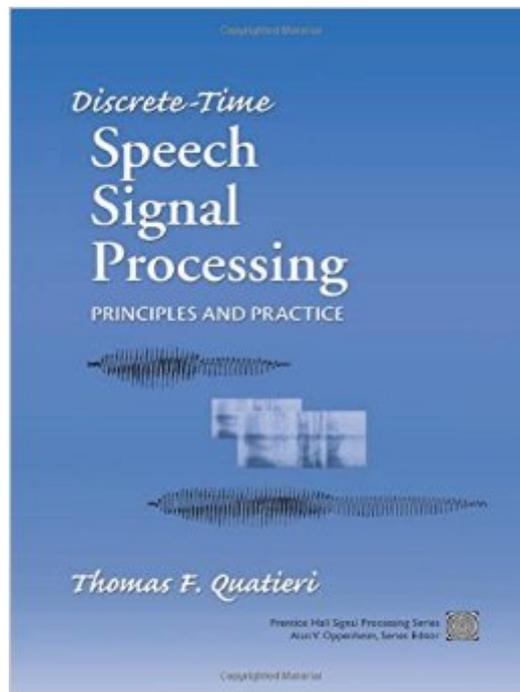# Discrete-Time Speech Signal Processing: Principles And Practice

Synopsis

Essential principles, practical examples, current applications, and leading-edge research. In this book, Thomas F. Quatieri presents the field's most intensive, up-to-date tutorial and reference on discrete-time speech signal processing. Building on his MIT graduate course, he introduces key principles, essential applications, and state-of-the-art research, and he identifies limitations that point the way to new research opportunities. Quatieri provides an excellent balance of theory and application, beginning with a complete framework for understanding discrete-time speech signal processing. Along the way, he presents important advances never before covered in a speech signal processing text book, including sinusoidal speech processing, advanced time-frequency analysis, and nonlinear aeroacoustic speech production modeling. Coverage includes: Speech production and speech perception: a dual view Crucial distinctions between stochastic and deterministic problems Pole-zero speech models Homomorphic signal processing Short-time Fourier transform analysis/synthesis Filter-bank and wavelet analysis/synthesis Nonlinear measurement and modeling techniques The book's in-depth applications coverage includes speech coding, enhancement, and modification; speaker recognition; noise reduction; signal restoration; dynamic range compression, and more. Principles of Discrete-Time Speech Processing also contains an exceptionally complete series of examples and Matlab exercises, all carefully integrated into the book's coverage of theory and applications.

Book Information

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Customer Reviews

I had the pleasure of being a student of the author's at MIT when the course notes that later became this text were under development. Having learnt about speech processing from the author and these notes, I can knowlingly comment on the clarity and depth of the material in the text and can recommend it with confidence. The book takes the reader from a fundamental review of concepts in signal processing and probability/stochastic processes through the broad range of areas in speech processing. That the author is a leading researcher in this area is reflected in the coverage of recent research advances and a bibliography that can point the conscientious reader towards current publications if desired. I strongly recommend this text to anyone interested in learning about signal processing in the context of speech.

The book took very nice and broad scope of Signal Processing.Unfortunately not all subjects are disclosed self-consistent.The best benefit I get from chapters where the subject was already familiar from other sources.I could not recomend this book for initial aquintment with Signal Processing, although with some previous knowledge the book could be interesting.

Discrete-Time Speech Signal Processing: Principles and Practice Discrete-Time Signal Processing (3rd Edition) (Prentice-Hall Signal Processing Series) Speech and Audio Signal Processing: Processing and Perception of Speech and Music Speech Therapy for Kids : Techniques and Parents Guide for Speech Therapy (speech therapy, speech therapy materials) Digital Signal Processing: with Selected Topics: Adaptive Systems, Time-Frequency Analysis, Sparse Signal Processing Discrete-Time Processing of Speech Signals Handbook of Neural Networks for Speech Processing (Artech House Signal Processing Library) First Principles of Discrete Systems and Digital Signal Processing (Addison-Wesley Series in Electrical Engineering) Bayesian Signal Processing: Classical, Modern and Particle Filtering Methods (Adaptive and Cognitive Dynamic Systems: Signal Processing, Learning, Communications and Control) Signal Processing Algorithms in Fortran and C (Prentice-Hall Signal Processing Series) Multidimensional Digital Signal Processing (Prentice-Hall Signal Processing Series) Digital Signal Processing with Examples in MATLAB®, Second Edition (Electrical Engineering & Applied Signal Processing Series) Modeling and Control of Discrete-event Dynamic Systems: with Petri Nets and Other Tools (Advanced Textbooks in Control and Signal Processing) Discrete Systems and Digital Signal Processing with MATLAB, Second Edition Computer Speech Technology (Artech House Signal Processing Library) Biosignal and Medical Image Processing (Signal Processing and Communications) Statistical Methods for Speech Recognition (Language, Speech, and Communication) Speech After Stroke: A

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