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Sommario/riassunto

Helps readers develop an intuitive understanding of audio signal processing Acclaimed for its breadth of coverage as well as its clear, accessible presentation, Speech and Audio Signal Processing examines how machines and humans process audio signals, with an emphasis on speech and music. It begins with basic principles and then explains how these principles set the foundation for a wide range of applications. Moreover, the book is organized into a series of short chapters, offering readers a succinct overview of the range of topics that together represent the current state of knowledge in the field. This Second Edition brings the book fully up to date with the explosive growth in audio processing technology, including the latest advances in digital music processing and distribution. New topics include: . Psychoacoustic audio coding, examining MP3 and related audio coding schemes that are based on the psychoacoustic masking of quantization noise . Music transcription, explaining how notes, beats, and chords can be automatically derived from music signals . Music information retrieval, exploring audio-based genre classification, artist and style identification, and similarity estimation . Audio source separation, describing multi-microphone beamforming, blind source separation, and perception-inspired techniques Throughout the book, the authors present both human and machine strategies for accomplishing audio processing tasks. Readers will discover that, in many cases, human strategies can provide the inspiration for the development of machine strategies. Speech and Audio Signal Processing is recommended for anyone who needs to understand the technologies underlying some of today's most cutting-edge applications, including speech recognition, audio compression, music synthesis, and diarization.