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Sommario/riassunto

Sound Capture and Processing: Practical Approaches, Ivan Tashev, Microsoft Research, USA Provides state-of-the-art algorithms for sound capture, processing and enhancement Sound Capture and Processing: Practical Approaches covers the digital signal processing algorithms and devices for capturing sounds, mostly human speech. It explores the devices and technologies used to capture, enhance and process sound for the needs of communication and speech recognition in modern computers and communication devices. This book gives a comprehensive introduction to basic acoustics and microphones, with coverage of algorithms for noise reduction, acoustic echo cancellation, dereverberation and microphone arrays; charting the progress of such technologies from their evolution to present day standard. Sound Capture and Processing: Practical Approaches . Brings together the state-of-the-art algorithms for sound capture, processing and enhancement in one easily accessible volume . Provides invaluable implementation techniques required to process algorithms for real life applications and devices . Covers a number of advanced sound processing techniques, such as multichannel acoustic echo cancellation, dereverberation and source separation . Generously illustrated with figures and charts to demonstrate how sound capture and audio processing systems work . An accompanying website containing Matlab code to illustrate the algorithms This invaluable guide will provide audio, R&D and software engineers in the industry of building systems or computer peripherals for speech enhancement with a comprehensive overview of the technologies, devices and algorithms required for modern computers and communication devices. Graduate students studying electrical engineering and computer science, and researchers in multimedia, cell-phones, interactive systems and acousticians will also benefit from this book.