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Titolo	Speech and Audio Processing for Coding, Enhancement and Recognition [[electronic resource] /] / edited by Tokunbo Ogunfunmi, Roberto Togneri, Madihally (Sim) Narasimha
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Descrizione fisica	1 online resource (347 p.)
Disciplina	005.437 006.7 4019 620
Soggetti	Signal processing Image processing Speech processing systems User interfaces (Computer systems) Multimedia information systems Signal, Image and Speech Processing User Interfaces and Human Computer Interaction Multimedia Information Systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	From 'Harmonic Telegraph' to Cellular Phones -- Challenges in Speech Coding Research -- Recent Speech Coding Technologies and Standards -- Ensemble Learning Approaches in Speech Recognition -- Dynamic and Deep Networks For Speech Modeling and Recognition -- Speech Based Emotion Recognition -- Speaker Diarization: Challenges and Emerging Research -- Maximum a posteriori spectral estimation with source log-spectral priors for multichannel speech enhancement -- Modulation Processing for Speech Enhancement.
Sommario/riassunto	This book describes the basic principles underlying the generation, coding, transmission and enhancement of speech and audio signals, including advanced statistical and machine learning techniques for

speech and speaker recognition with an overview of the key innovations in these areas. Key research undertaken in speech coding, speech enhancement, speech recognition, emotion recognition and speaker diarization are also presented, along with recent advances and new paradigms in these areas.

- Offers readers a single-source reference on the significant applications of speech and audio processing to speech coding, speech enhancement and speech/speaker recognition. Enables readers involved in algorithm development and implementation issues for speech coding to understand the historical development and future challenges in speech coding research;
- Discusses speech coding methods yielding bit-streams that are multi-rate and scalable for Voice-over-IP (VoIP) Networks;
- Presents an overview of recent developments in conversational speech coding technologies, important new algorithmic advances, and recent standardization activities in ITU-T, 3GPP, 3GPP2, MPEG and IETF that offer a significantly improved user experience during voice calls on existing and future communication systems;
- Presents an overview of ensemble learning efforts based on different machine learning techniques that have emerged in automatic speech recognition in recent years;
- Emphasizes signal processing for efficient time-domain and spectral-domain representations, reduction of noise, channel and session variabilities, extraction of temporal and spectral features for recognition and modeling;
- Informs readers of the latest research and developments in advanced statistical estimation and deep neural networks for speech recognition;
- Presents readers with the architectural framework and key approaches involved in the “hot” research areas of emotion recognition and speaker diarization systems;
- Provides readers with a more enriching view of state of the art research in speech enhancement arising from novel multi-microphone and time-frequency solutions.

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