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Titolo	Advances in Speech and Music Technology : Computational Aspects and Applications / / edited by Anupam Biswas, Emile Wennekes, Alicja Wieczorkowska, Rabul Hussain Laskar
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Soggetti	Signal processing Acoustical engineering Music Signal, Speech and Image Processing Engineering Acoustics
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	State-of-the-Art -- A comprehensive review on Speaker Recognition -- Music Composition with Deep Learning: A Review -- Music Recommendation Systems: Overview and Challenges -- Music Recommender Systems: A Review Centered on Biases -- Computational Approaches for Indian Classical Music: A Comprehensive Review -- Machine Learning -- A Study on Effectiveness of Deep Neural Networks for Speech Signal Enhancement in Comparison with Wiener Filtering Technique -- Video Soundtrack Evaluation with Machine Learning: Data Availability, Feature Extraction and Classification -- Deep Learning Approach to Joint Identification of Instrument, Shruthi and Raga for Indian Classical Music -- Comparison of Convolutional Neural Networks and K-Nearest Neighbours for Music Instrument Recognition -- Emotion Recognition in Music using Deep Neural Networks -- Perception, Health and Emotion -- Music to Ears in Hearing Impaired- Signal Processing Advancements in Hearing Amplification Devices -- Music Therapy - A Best Way to Solve Anxiety and Depression in Diabetes Mellitus Patients -- Music and Stress During Covid-19 Lockdown: Influence of Locus of Control and Coping Styles on Musical

Preferences -- Biophysics of Brain Plasticity and Its Correlation to Music Learning -- Dealing with Emotional Speech and Text: A Special Focus on Bengali Language -- Case Studies -- Duplicate Detection for Digital Audio Archive Management: Two Case Studies -- Section Order, Refrain Perception, and the Interpretation of a Song's Meaning -- Musical Influence on Visual Aesthetics: An Exploration on Intermediality using Audience Response, Feature and Fractal Analysis -- Influence of Musical Acoustics on Graphic Design: An Exploration with Indian Classical Music Album Cover Design -- A Fractal Approach to Characterize Emotions in Audio and Visual Domain: A Study on Cross-Modal Interaction -- Inharmonic Frequency Analysis of Tabla Strokes in North Indian Classical Music.

#### Sommario/riassunto

This book presents advances in speech and music in the domain of audio signal processing. The book begins with introductory chapters on the basics of speech and music, and then proceeds to computational aspects of speech and music, including music information retrieval and spoken language processing. The authors discuss the intersection in the field of computer science, musicology and speech analysis, and how the multifaceted nature of speech and music information processing requires unique algorithms, systems using sophisticated signal processing, and machine learning techniques that better extract useful information. The authors discuss how a deep understanding of both speech and music in terms of perception, emotion, mood, gesture and cognition is essential for successful application. Also discussed is the overwhelming amount of data that has been generated across the world that requires efficient processing for better maintenance, retrieval, indexing and querying and how machine learning and artificial intelligence are most suited for these computational tasks. The book provides both technological knowledge and a comprehensive treatment of essential topics in speech and music processing. Presents comprehensive coverage of the interdisciplinary aspects of speech and music processing; Offer detailed technological insights and a deep understanding of speech and music processing applications by considering both theory and practice in the relevant topics; Topics include music information retrieval and spoken language processing that takes into account perception, emotion, mood, and cognition.