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Disciplina	610.285 616.80475
Soggetti	Biomedical engineering Signal processing Nervous system - Diseases Radiology Medical informatics Computer vision Biomedical Engineering and Bioengineering Signal, Speech and Image Processing Neurological Disorders Health Informatics Computer Vision
Lingua di pubblicazione	Inglese
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1. Abnormal EEG detection using time-frequency images and convolutional neural network. -- 2. Physical action categorization pertaining to certain neurological disorders using machine learning based signal analysis -- 3. A comparative study on EEG features for neonatal seizure detection. -- 4. Hilbert huang transform (HHT) analysis of heart rate variability (HRV) in recognition of emotion in children with autism spectrum disorder (ASD) -- 5. Detection of tonic-clonic seizures using scalp EEG of spectral moments. -- 6. Investigation of the brain activation pattern of stroke patients and

healthy individuals during happiness and sadness -- 7. A novel parametric non-stationary signal model for EEG signals and its application in epileptic seizure detection -- 8. Biomedical signal analysis using entropy measures: A case study of motor imaginary BCI in end-users with disability -- 9. Automatic detection of epilepsy using CNN-GRU hybrid model -- 10. Catalogic systematic literature review of hardware-accelerated neurodiagnostic -- 11. Wearable Real-time Epileptic Seizure Detection and Warning System -- 12. Analysis of Intramuscular Coherence of Lower Limb Muscles Activities using Magnitude Squared Coherence.

Sommario/riassunto

Biomedical signals provide unprecedented insight into abnormal or anomalous neurological conditions. The computer-aided diagnosis (CAD) system plays a key role in detecting neurological abnormalities and improving diagnosis and treatment consistency in medicine. This book covers different aspects of biomedical signals-based systems used in the automatic detection/identification of neurological disorders. Several biomedical signals are introduced and analyzed, including electroencephalogram (EEG), electrocardiogram (ECG), heart rate (HR), magnetoencephalogram (MEG), and electromyogram (EMG). It explains the role of the CAD system in processing biomedical signals and the application to neurological disorder diagnosis. The book provides the basics of biomedical signal processing, optimization methods, and machine learning/deep learning techniques used in designing CAD systems for neurological disorders. Presents the concepts of CAD for various neurological disorders; Covers biomedical signal processing and machine learning/deep learning techniques; Includes case studies, real-time examples, and research directions.
