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Biomedical signal-based computer aided diagnosis for neurological disorders

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 (ND). 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.

Book Editors:

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Major topics to be included in the book are:

- Introduction to neurological disorders (ND) and biomedical signal processing.
- Basic principles of CAD in ND diagnosis.
- Characterization of biomedical signals in ND.
- Feature engineering and optimization.
- Machine learning techniques in CAD for ND
- Deep learning algorithms in CAD for ND
- Neural network applications in CAD for ND
- Fuzzy logic and optimization techniques
- Supervised and unsupervised learning
- Case studies related to ND diagnosis.
- Challenges in the CAD for ND
- Advances and trends in CAD for ND diagnosis.
- Open Challenges in CAD in ND diagnosis

Important dates

- Abstract Submission (*max 250 words*): **30th July 2021**
- Acceptance of abstract: **5th August 2021**
- Full chapter submission:**15th September 2021**
- Authors notification: **15th October 2021**
- Camera ready submission: **10th November 2021**
- Permission and copyright:**20th November 2021**
- Publication date: **1st quarter of 2022**

- **NO PUBLICATION/ ARITICLE PROCESSING FEE.**
- All manuscripts are accepted based on a **double-blind peer review** editorial process.
- Indexed by **Web of Science (WoS), SCOPUS, Google Scholar, SCImago.**

Submission link: https://easychair.org/conferences/?conf=bscadnd2021

Submission guidelines

- MS Word, single column, Times New Roman, 11 font size, 1.15 spacing.
- References must follow springer style.
- Length of the chapter: 20-25 pages (11550 words (approx.)) including references, tables, figures.
- Similarity index should be less than **10 %** (without reference).
- All figures must be supplied as final artwork (e.g., JPEG, PNG, TIFF, etc.) at high-resolution.

Researchers, academicians, clinicians, scientists, research scholars, and others working professionals in the field of Computer-aided diagnosis using biomedical signals for neurological disorders are requested to submit their book chapter of original contribution with significant novelty.

Any queries, please feel free to write to us at **bookchapter.bscad@gmail.com** and CC to **m.murugappan@kcst.edu.kw** ; **yuvaraj.rajamanickam@nie.edu.sg**.