

1. Record Nr.	UNINA9910483173903321
Titolo	Signal processing techniques for computational health informatics // Md Atiqur Rahman Ahad, Mosabber Uddin Ahmed, editors
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-54932-1
Descrizione fisica	1 online resource : illustrations
Collana	Intelligent systems reference library ; ; Volume 192
Disciplina	621.3822
Soggetti	Signal processing - Digital techniques Medical informatics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Sommario/riassunto	This book focuses on signal processing techniques used in computational health informatics. As computational health informatics is the interdisciplinary study of the design, development, adoption and application of information and technology-based innovations, specifically, computational techniques that are relevant in health care, the book covers a comprehensive and representative range of signal processing techniques used in biomedical applications, including: bio-signal origin and dynamics, sensors used for data acquisition, artefact and noise removal techniques, feature extraction techniques in the time, frequency, time–frequency and complexity domain, and image processing techniques in different image modalities. Moreover, it includes an extensive discussion of security and privacy challenges, opportunities and future directions for computational health informatics in the big data age, and addresses the incorporation of recent techniques from the areas of artificial intelligence, deep learning and human–computer interaction. The systematic analysis of the state-of-the-art techniques covered here helps to further our understanding of the physiological processes involved and expand our capabilities in medical diagnosis and prognosis. In closing, the book, the first of its kind, blends state-of-the-art theory and practices of signal processing

techniques in the health informatics domain with real-world case studies building on those theories. As a result, it can be used as a text for health informatics courses to provide medics with cutting-edge signal processing techniques, or to introduce health professionals who are already serving in this sector to some of the most exciting computational ideas that paved the way for the development of computational health informatics.
