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   Titolo   Health Informatics Data Analysis : Methods and Examples / / edited by Dong Xu, May D. Wang, Fengfeng Zhou, Yunpeng Cai

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   Edizione   [1st ed. 2017.]

   Descrizione fisica   1 online resource (X, 210 p. 54 illus.)

   Collana   Health Information Science, , 2366-0988

   Disciplina   610.285

   Soggetti   Health informatics
                         Data mining
                         Bioinformatics
                         Biomathematics
                         Health Informatics
                         Data Mining and Knowledge Discovery
                         Computational Biology/Bioinformatics
                         Genetics and Population Dynamics

   Lingua di pubblicazione   Inglese

   Formato   Materiale a stampa

   Livello bibliografico Monografia

   Nota di bibliografia Includes bibliographical references at the end of each chapters.

   Nota di contenuto   1 Electrocardiogram -- 2 EEG visualization and analysis techniques -- 3 Big health data mining -- 4 Computational infrastructure for tele-health -- 5 Identification and Functional Annotation of lncRNAs in human disease -- 6 Metabolomics characterization of human diseases -- 7 Metagenomics for Monitoring Environmental Biodiversity: Challenges, Progress, and Opportunities -- 8 Global nonlinearfitness function for protein structures -- 9 Clinical Assessment of Disease Risk Factors Using SNP Data and Bayesian Methods -- 10 Imaging genetics: information fusion and association techniques between biomedical images and genetic factors.

   Sommario/riassunto   This book provides a comprehensive overview of different biomedical data types, including both clinical and genomic data. Thorough explanations enable readers to explore key topics ranging from electrocardiograms to Big Data health mining and EEG analysis techniques. Each chapter offers a summary of the field and a sample

analysis. Also covered are telehealth infrastructure, healthcare information association rules, methods for mass spectrometry imaging, environmental biodiversity, and the global nonlinear fitness function for protein structures. Diseases are addressed in chapters on functional annotation of lncRNAs in human disease, metabolomics characterization of human diseases, disease risk factors using SNP data and Bayesian methods, and imaging informatics for diagnostic imaging marker selection. With the exploding accumulation of Electronic Health Records (EHRs), there is an urgent need for computer-aided analysis of heterogeneous biomedical datasets. Biomedical data is notorious for its diversified scales, dimensions, and volumes, and requires interdisciplinary technologies for visual illustration and digital characterization. Various computer programs and servers have been developed for these purposes by both theoreticians and engineers. This book is an essential reference for investigating the tools available for analyzing heterogeneous biomedical data. It is designed for professionals, researchers, and practitioners in biomedical engineering, diagnostics, medical electronics, and related industries.