1. Record Nr. UNISA996465747603316

Titolo	Advances in Mass Data Analysis of Images and Signals in Medicine, Biotechnology, Chemistry and Food Industry [[electronic resource]] : Third International Conference, MDA 2008, Leipzig, Germany, July 14, 2008, Proceedings / / edited by Petra Perner, Ovidio Salvetti
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2008
ISBN	3-540-70715-8
Edizione	[1st ed. 2008.]
Descrizione fisica	1 online resource (X, 173 p.)
Collana	Lecture Notes in Artificial Intelligence ; ; 5108
Disciplina	570
Soggetti	Life sciences Computer graphics Data mining Optical data processing Bioinformatics Life Sciences, general Computer Graphics Data Mining and Knowledge Discovery Computer Imaging, Vision, Pattern Recognition and Graphics Image Processing and Computer Vision Computational Biology/Bioinformatics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	New Models for Immune Mechanism Diagnosis -- New Models for Immune Mechanism Diagnosis -- User Assisted Substructure Extraction in Molecular Data Mining -- Fully Automatic Heart Beat Rate Determination in Digital Video Recordings of Rat Embryos -- Biomedical Signal and Image Processing for Decision Support in Heart Failure -- Automatic Data Acquisition and Signal Processing in the Field of Virology -- Colorectal Polyps Detection Using Texture Features and Support Vector Machine -- OplAnalyzer: A Toolbox for MALDI-TOF Mass Spectrometry Data Analysis -- Classification of Mass Spectrometry Based Protein Markers by Kriging Error Matching -- A

Mathematical Operator for Automatic and Real Time Analysis of Sequences of Vascular Images -- A Unified Mathematical Treatment of Regression Problems in Image Processing -- Multi-scale Representation and Persistency for Shape Description -- Novel Computerized Methods in System Biology –Flexible High-Content Image Analysis and Interpretation System for Cell Images -- MDA 2006 -- Automatic Segmentation of Unstained Living Cells in Bright-Field Microscope Images.

Sommario/riassunto

The automatic analysis of signals and images together with the characterization and elaboration of their representation features is still a challenging activity in many relevant scientific and hi-tech fields such as medicine, biotechnology, and chemistry. Multidimensional and multisource signal processing can generate a number of information patterns which can be useful to increase the knowledge of several domains for solving complex problems. Furthermore, advanced signal and image manipulation allows relating specific application problems into pattern recognition problems, often implying also the development of KDD and other computational intelligence procedures. Nevertheless, the amount of data produced by sensors and equipments used in biomedicine, biotechnology and chemistry is usually quite huge and structured, thus strongly pushing the need of investigating advanced models and efficient computational algorithms for automating mass analysis procedures. Accordingly, signal and image understanding approaches able to generate automatically expected outputs become more and more essential, including novel conceptual approaches and system architectures. The purpose of this third edition of the International Conference on Mass Data Analysis of Signals and Images in Medicine, Biotechnology, Chemistry and Food Industry (MDA 2008; www.mda-signals.de) was to present the broad and growing scientific evidence linking mass data analysis with challenging problems in medicine, biotechnology and chemistry. Scientific and engineering experts convened at the workshop to present the current understanding of image and signal processing and interpretation methods useful for facing various medical and biological problems and exploring the applicability and effectiveness of advanced techniques as solutions.