Computational Intelligence Techniques

SMART COMPUTATIONAL INTELLIGENCE IN BIOMEDICAL AND HEALTH INFORMATICS

Edited by
Amit Kumar Manocha, Mandeep Singh, Shruti Jain, and Vishal Jain

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Smart Computational Intelligence in Biomedical and Health Informatics

Computational Intelligence Techniques
Series Editor: Vishal Jain

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Preface

Health informatics involves multidisciplinary domains to extract information and knowledge from physiological data to use in decision making for improved human health through the effective use of recently developed technologies and algorithms. The aim is to provide a cross-disciplinary forum to share information on research, simulations and modeling, measurement and control, analysis, information extraction, and monitoring of physiological data in clinical medicine and the biological sciences. Emphasis is placed on contributions dealing with the practical, applications-led research on the use of methods and devices in clinical diagnosis, disease prevention, patient monitoring, and management. Health informatics is closely related to artificial intelligence where heuristic as well as metaheuristic algorithms are designed to provide better and optimized solutions in reasonable amounts of time. These algorithms have been successfully applied to different application domains in biomedical, bioinformatics, and biological sciences. The practice of recent biomedical research requires sophisticated information technologies to manage patient information, and plan for diagnostics, prognostics, procedures, interpretation, and investigations. This provides a conceptual framework and practical inspiration for the quickly growing and promising engineering and scientific disciplines of computer science, decision science, information science, cognitive science, and biomedicine. The objective of this book is to provide the researchers a platform to present state-of-the-art innovations, research, design, and implement methodological and algorithmic solutions to data processing problems by designing and analyzing evolving trends in health informatics and computer-aided diagnosis. This book will provide support and aid to the researchers involved in designing decision support systems that will permit the societal acceptance of ambient intelligence. The overall goal of this book is to present the latest snapshot of the ongoing research as well as shed further light on future directions in this space. This book presents novel technical studies as well as position and vision papers comprising hypothetical/speculative scenarios.

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