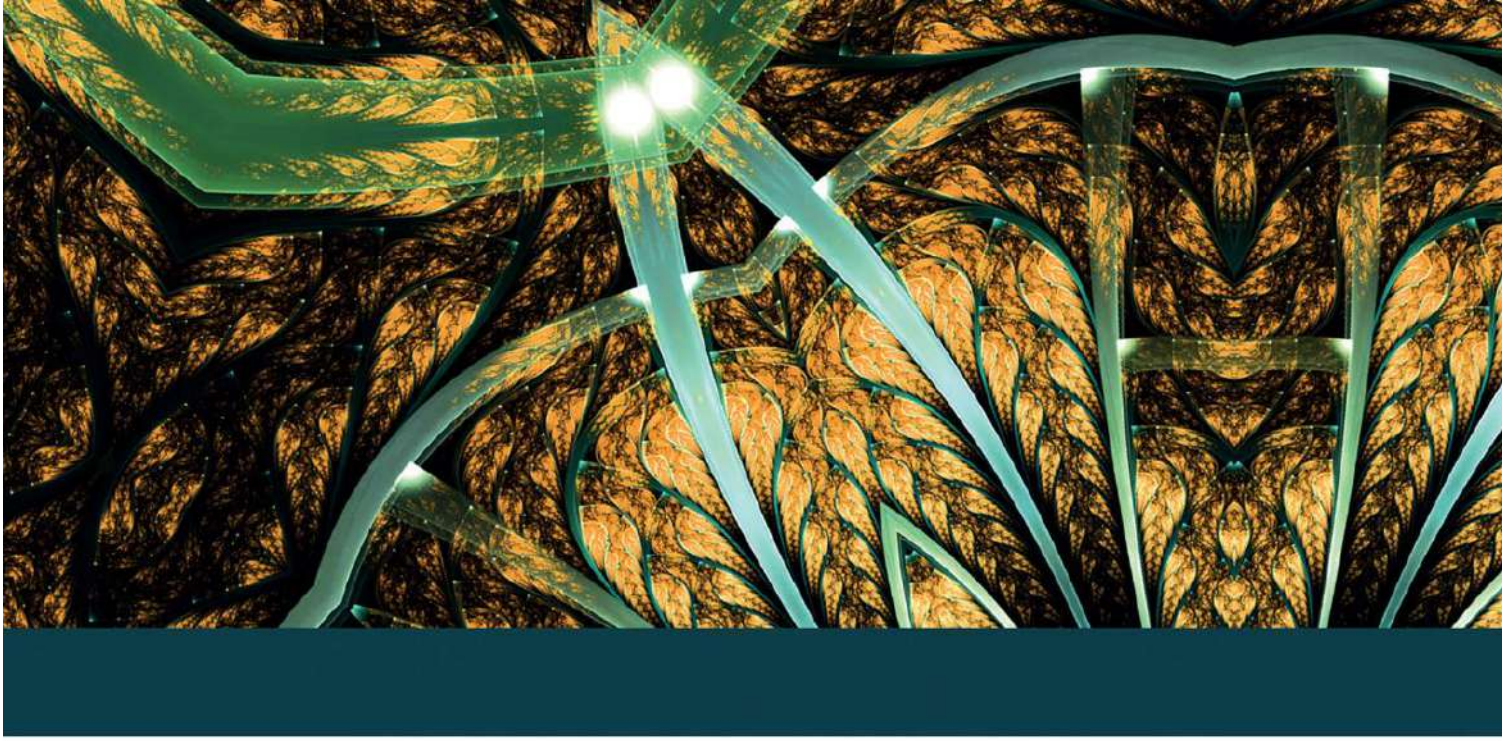
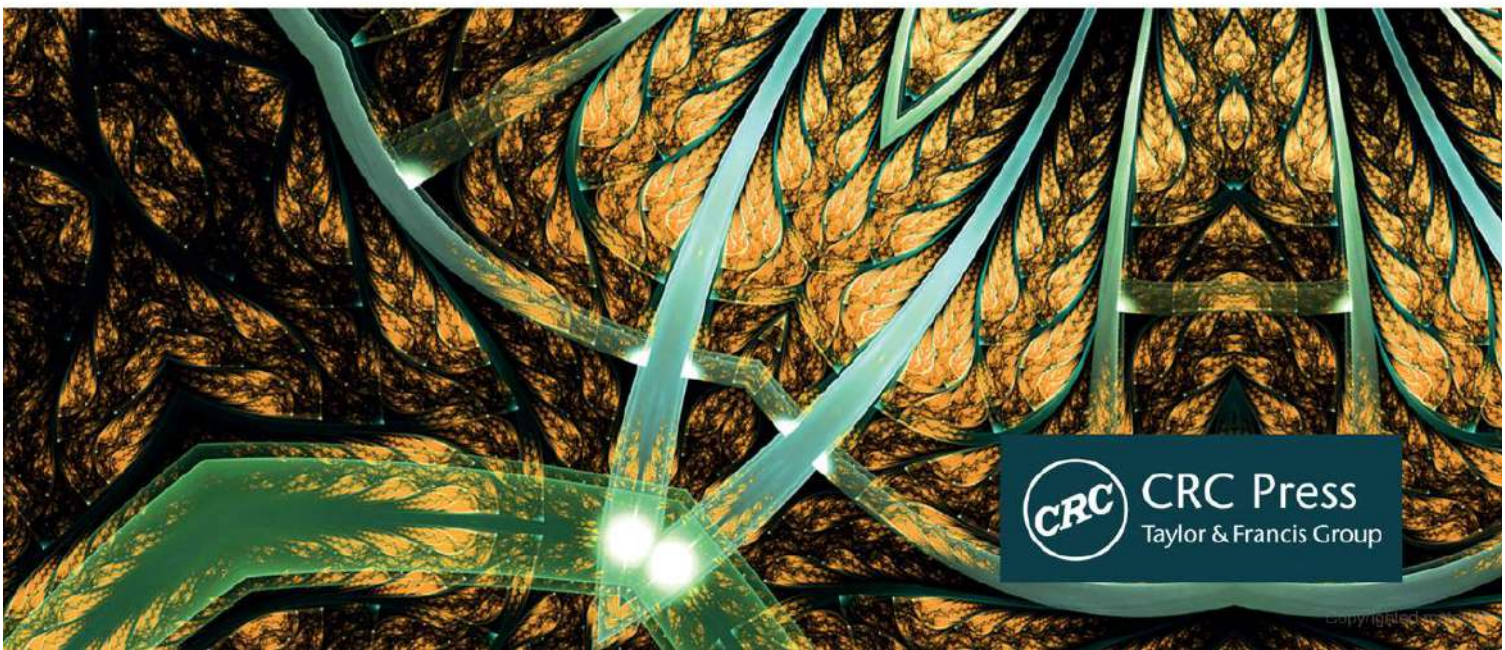


COMPUTATIONAL INTELLIGENCE AND DATA SCIENCES

PARADIGMS IN BIOMEDICAL ENGINEERING

Edited by
Ayodeji Olalekan Salau, Shruti Jain
and Meenakshi Sood



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Contents

Preface vii
Acknowledgments ix
Editors xi
Contributors xiii

Chapter 1 Performance of Diverse Machine Learning Algorithms for Heart Disease Prognosis 1

Dhruv Kaliraman, Gauri Kamath, Suchitra Khoje, and Prajakta Pardeshi

Chapter 2 Intelligent Ovarian Detection and Classification in Ultrasound Images Using Machine Learning Techniques 23

V. Kiruthika, S. Sathiya, and M.M. Ramya

Chapter 3 On Effective Use of Feature Engineering for Improving the Predictive Capability of Machine Learning Models 53

Chapter 4 Artificial Intelligence Emergence in Disruptive Technology 63

J. E. T. Akinsola and M. A. Adeagbo, K. A. Oladapo, S. A. Akinsehinde, and F. O. Onipede

Chapter 5 An Optimal Diabetic Features-Based Intelligent System to Predict Diabetic Retinal Disease 91

M. Shanmuga Eswari and S. Balamurali

Chapter 6 Cross-Recurrence Quantification Analysis for Distinguishing Emotions Induced by Indian Classical Music 107

M. Sushrutha Bharadwaj, V. G. Sangam, Shantala Hegde, and Anand Prem Rajan

Chapter 7 Pattern Recognition and Classification of Remotely Sensed Satellite Imagery 123

Pramit Pandit, K. S. Kiran, and Bishvajit Bakshi

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Chapter 8 Viability of Information and Correspondence Innovation for the Improvement of Communication Abilities in the Healthcare Industry 141

Pinki Paul and Balgopal Singh

Chapter 9 Application of 5G/6G Smart Systems to Overcome Pandemic and Disaster Situations 155

Jayanta Kumar Ray, Sanjib Sil, Rabindranath Bera, and Quazi Mohmmad Alfred

Chapter 10 Risk Perception, Risk Management, and Safety Assessments: A Review of an Explosion in the Fireworks Industry 177

N. Indumathi, R. Ramalakshmi, N. Selvapalam, and V. Ajith

Chapter 11 High-Utility Itemset Mining: Fundamentals, Properties, Techniques and Research Scope 195

V. Jeevika Tharini and B.L. Shivakumar

Chapter 12 A Corpus Based Quantitative Analysis of Gurmukhi Script 211

Gurjot Singh Mahi and Amandeep Verma

Chapter 13 An Analysis of Protein Interaction and Its Methods, Metabolite Pathway and Drug Discovery 237

P. Lakshmi and D. Ramyachitra

Chapter 14 Biosensors for Disease Diagnosis 253

Ramneet Kaur, Dibita Mandal, Juveria Ansari, Prachi R. Londhe, Vedika Potdar, and Vishakkha Dash

Index 267

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Preface

Computational intelligence is closely related to artificial intelligence where heuristic as well as metaheuristic algorithms are designed to provide better and optimized solutions in a reasonable amount of time. These algorithms have been effectively used in a variety of biomedical, bioinformatics, and biological science application domains in health informatics and computer science. The practice of recent biomedical research most times requires sophisticated technologies to manage patient information, plan diagnostics, prognostics, procedures, interpretations, and investigations. This provides a conceptual foundation as well as practical inspiration for computer science, decision science, information science, cognitive science, and biomedicine, which are all rapidly growing engineering and scientific areas.

Computational intelligence approaches are gaining attraction in the field of health informatics as a way to improve people's health. In this book, we focus on the applications of computational intelligence techniques in the domain of biomedical engineering and computer science. The applications of computational intelligence techniques in the domain of biomedical engineering is the subject of this book. In the healthcare sector, biomedical engineers develop algorithms that use artificial intelligence and corresponding hardware for decision modules for diagnosis and prognosis of diseases such as arrhythmia, cancer, and diabetes and other health-related issues in humans for early and more accurate detection and prevention. The use of intelligent strategies to undertake all of these actions could lead to more efficient outcomes.

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