

S. Vaidya, L.C. Jain and H. Yoshida (Eds.)

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Advanced Computational Intelligence Paradigms in Healthcare-2

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With 40 Figures and 11 Tables

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## Foreword

This second volume of the book “Advanced Computational Intelligence Paradigms in Healthcare” highlights recent advances in applying computational intelligence to healthcare issues. This book will serve as an interesting and useful resource for health professionals, academics, students, and computer scientists, since it illustrates the current diverse applications of computational intelligence to healthcare practice including topics such as (i) analysing synthetic character technologies such as assessing skills in dealing with trauma patients or obtaining informed consent as well as training medical students in interacting with paediatric patients (ii) menu generation in web-based lifestyle counselling systems, (iii) evaluating models used for studying factors influencing IT acceptance in healthcare practice, (iv) archiving and communicating medical image databases, (v) the use of the electrocardiogram in evaluation and management of patients as well as (vi) rehabilitation and health care for severely disabled people.

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## Preface

The goal of healthcare is to maintain or improve human health. To achieve this goal, healthcare systems have evolved considerably over the past years. More and more sophisticated information technologies and intelligent paradigms have been employed in the healthcare systems for delivering effective healthcare to the patients. The computers have made it possible to easily access and process a large amount of information at a relatively low cost and high speed. Computational intelligence is becoming one of the key technologies for healthcare systems to evolve further, because intelligent paradigms such as artificial neural networks, multiagent systems, and genetic algorithms help the systems to behave like humans—an essential feature that many healthcare systems need to have.

This volume presents seven chapters selected from the rapidly growing application areas of computational intelligence to healthcare systems, including intelligent synthetic characters, man-machine interface, menu generators, analysis of user acceptance, pictures archiving and communication systems, and inverse electromagnetic problem of the heart.

We believe that this volume, along with the first volume of the book, will serve as a useful resource for the health professionals, professors, students, and the computer scientists, who are working on or interested in learning healthcare systems, to overview the current state-of-the-art of diverse applications of computational intelligence to healthcare practice.

We are grateful to the authors and the reviewers for their vision and great contributions to this book. We are indebted to Springer-Verlag for their excellent help in the preparation of the camera ready copy.

Editors

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