

Preface

This book presents novel and advanced Topics in Medical Image Processing and Computational Vision in order to solidify knowledge in the related fields and define their key stakeholders.

The sixteen chapters included in this book were written by invited experts of international recognition and address important issues in Medical Image Processing and Computational Vision, including: Object Recognition, Object Detection, Object Tracking, Pose Estimation, Facial Expression Recognition, Image Retrieval, Data Mining, Automatic Video Understanding and Management, Edges Detection, Image Segmentation, Modelling and Simulation, Medical Thermography, Database Systems, Synthetic Aperture Radar and Satellite Imagery.

Different applications are addressed and described throughout the book, comprising: Object Recognition and Tracking, Facial Expression Recognition, Image Database, Plant Disease Classification, Video Understanding and Management, Image Processing, Image Segmentation, Bio-structure Modelling and Simulation, Medical Imaging, Image Classification, Medical Diagnosis, Urban Areas Classification and Land Map Generation.

Therefore, this book is of crucial effectiveness for Researchers, Students, End Users and Manufacturers from several multidisciplinary fields, as the ones related with Artificial Intelligence, Bioengineering, Biomechanics, Computational Mechanics, Computational Vision, Computer Sciences, Human Motion, Mathematics, Medical Image, Medicine, Pattern Recognition and Physics.

The Editors would like to take this opportunity to thank all invited authors for sharing their works, experiences and knowledge, making possible their dissemination through this book.

João Manuel R. S. Tavares
Renato M. Natal Jorge