

Developments in Medical Image Processing and Computational Vision

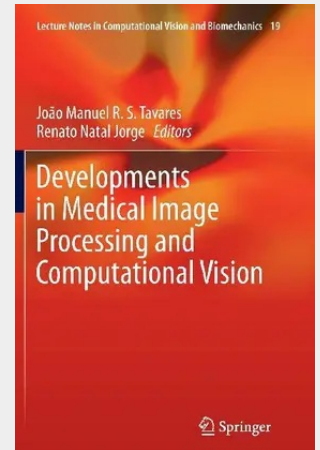
This book presents novel and advanced topics in Medical Image Processing and Computational Vision in order to solidify knowledge in the related fields and define their key stakeholders. It contains extended versions of selected papers presented in VipIMAGE 2013 – IV International ECCOMAS Thematic Conference on Computational Vision and Medical Image, which took place in Funchal, Madeira, Portugal, 14-16 October 2013.

The twenty-two chapters were written by invited experts of international recognition and address important issues in medical image processing and computational vision, including: 3D vision, 3D visualization, colour quantisation, continuum mechanics, data fusion, data mining, face recognition, GPU parallelisation, image acquisition and reconstruction, image and video analysis, image clustering, image registration, image restoring, image segmentation, machine learning, modelling and simulation, object detection, object recognition, object tracking, optical flow, pattern recognition, pose estimation, and texture analysis.

Different applications are addressed and described throughout the book, comprising: biomechanical studies, bio-structure modelling and simulation, bone characterization, cell tracking, computer-aided diagnosis, dental imaging, face recognition, hand gestures detection and recognition, human motion analysis, human-computer interaction, image and video understanding, image processing, image segmentation, object and scene reconstruction, object recognition and tracking, remote robot control, and surgery planning.

This volume is of use to researchers, students, practitioners and manufacturers from several multidisciplinary fields, such as artificial intelligence, bioengineering, biology, biomechanics, computational mechanics, computational vision, computer graphics, computer science, computer vision, human motion, imagiology, machine learning, machine vision, mathematics, medical image, medicine, pattern recognition, and physics.

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106,99 €
99,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783319364629
Medium: Buch
ISBN: 978-3-319-36462-9
Verlag: Springer
Erscheinungstermin: 06.10.2016
Sprache(n): Englisch
Auflage: Softcover Nachdruck of the original 1. Auflage 2015
Serie: Lecture Notes in Computational Vision and Biomechanics
Produktform: Kartoniert
Gewicht: 6263 g
Seiten: 395
Format (B x H): 155 x 235 mm

