

Preface

Computational vision domain presents a multidisciplinary nature involving different applications in society. Medicine, material science, surveillance, biometric, robotics, defence, satellite data, traffic analysis, and architecture, among other areas, use signal and image processing and analysis, arousing interest in methodological and applicative aspects.

Due to its intrinsic interdisciplinary aspects, different approaches, such as optimization methods, geometry, principal component analysis, stochastic methods, neural networks, and fuzzy logic, are currently discussed by the Researchers.

Several research fields related to the acquisition, the use and the analysis of images are involved in the areas of image processing and analysis, image segmentation, 2D and 3D reconstruction, data acquisition, interpolation and registration, scientific data visualization, remote sensing, modeling and simulation, biometric recognition, medical imaging, motion and deformation analysis, material science, computer vision in robotics and automation, and architecture.

This book contains extended versions of selected papers presented at the third edition of the *International Symposium CompIMAGE 2012: Computational Modeling of Object Presented in Images: Fundamentals, Methods and Applications*, that was held in Rome, at the Department of Computer, Control, and Management Engineering Antonio Ruberti of Sapienza University of Rome, September 2012. *CompIMAGE 2012* brought together researchers representing several fields such as Biomechanics, Engineering, Medicine, Mathematics, Physics, Statistic, and Architecture, presenting new trends in these fields. In particular, the latter topic, which was addressed for the first time in this edition, due to the particularity of the hosting Country for what concerns the Historical, Architectural, Cultural, and urban heritages resources, puts in evidence the important role that images also have in such less technical fields.

The Editors wish to thank all the *CompIMAGE 2012* Authors, Invited Lecturers, and members of the Scientific Committee for sharing their expertise, and also to the Department of Computer, Control, and Management Engineering Antonio Ruberti, the University of Rome La Sapienza, The Italian Group of Fracture (IGF), the Consorzio Interuniversitario Nazionale per l'Informatica (CINI), Sapienza Innovazione, Zêtema Progetto Cultura S.r.l, the Universidade do Porto (UP), the Faculdade de Engenharia da Universidade do Porto (FEUP), the Fundação para a Ciência e a Tecnologia (FCT), the Instituto de Engenharia Mecânica (IDMEC-

Polo FEUP), and the Instituto de Engenharia Mecânica e Gestão Industrial (INEGI), for the help and the support given in the organization of this Roman third Edition of the *Symposium CompIMAGE 2012*.

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Computational Modeling of Objects Presented in
Images

Fundamentals, Methods and Applications

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2014, VIII, 314 p. 196 illus., Hardcover

ISBN: 978-3-319-04038-7