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Computational Modeling of Objects Represented in Images

Second International Symposium, CompIMAGE 2010
Buffalo, NY, USA, May 5-7, 2010
Proceedings

Springer
Preface

It is indeed a great pleasure to welcome you to the proceedings of the International Symposium “Computational Modeling of Objects Represented in Images. Fundamentals, Methods and Applications” (CompIMAGE 2010) held in Buffalo, NY, May 5-7, 2010. This was the second issue of CompIMAGE symposia, the first one being held in Coimbra, Portugal.

The purpose of CompIMAGE 2010 was to provide a common forum for researchers, scientists, engineers, and practitioners around the world to present their latest research findings, ideas, developments, and applications in the area of computational modeling of objects represented in images. In particular, the symposium aimed to attract scientists who use various approaches – such as finite element method, optimization methods, modal analysis, stochastic methods, principal components analysis, independent components analysis, distribution models, geometrical modeling, digital geometry, grammars, fuzzy logic, and others – to solve problems that appear in a wide range of areas as diverse as medicine, robotics, defense, security, astronomy, material science, and manufacturing.

CompIMAGE 2010 was highly international. Its Program Committee members are renowned experts coming from 25 different countries. Submissions to the symposium came from 22 countries from Africa, Asia, Europe, North and South America. Overall, representatives of 32 countries contributed to the symposium in different capacities.

The present volume includes the papers presented at the symposium. Following the call for papers, CompIMAGE 2010 received 77 submissions; 28 of them are included in this volume. The review process was rigorous, involving three to four independent double-blind reviews. A Scientific Committee of several world-leading experts was formed to help resolve possible controversial cases. OpenConf provided a convenient platform for smoothly carrying out the review process. The most important selection criterion for acceptance or rejection of a paper was the overall score received. Other criteria were: relevance to the symposium topics, correctness, originality, mathematical depth, clarity, and presentation quality. We believe that as a result, only high-quality papers were accepted for presentation at CompIMAGE 2010 and for publication in this volume. We hope that many of these papers are of interest to a broader audience.

The program of the symposium included presentations of contributed papers, as well as invited talks by five distinguished scientists: Chandrajit L. Bajaj, Venu Govindaraju, Dinggang Shen, Sargur N. Srihari, and Yongjie (Jessica) Zhang. The participants enjoyed a recent film about the life and the achievements of Dr. Herbert Hauptman, Nobel Laureate.
In addition to the main track of CompIMAGE 2010, a Special Track on Object Modeling, Algorithms, and Applications was organized. In this track, researchers presented their recent work and made software demonstrations.

Many individuals and organizations contributed to the success of the symposium. First of all, the Chairs are indebted to CompIMAGE 2010’s Steering Committee for endorsing the candidacy of Buffalo for the second edition of the symposium. Our most sincere thanks go to the Program Committee and the Scientific Committee whose cooperation in carrying out high quality reviews was essential in establishing a strong symposium program. We express our sincere gratitude to the invited speakers Chandrajit L. Bajaj, Venu Govindaraju, Dinggang Shen, Sargur N. Srihari, and Yongjie (Jessica) Zhang for their remarkable talks and overall contribution to the symposium. We wish to thank everybody who submitted their work to CompIMAGE 2010. Thanks to their contributions, we succeeded in having a technical program of high scientific quality. We are indebted to all participants and especially to the contributors to this volume.

The success of the symposium would not be possible without the hard work of the local Organizing Committee. We are grateful to Boris V. Brimkov, Daniel W. Cunningham, Bonita R. Durand, Khalid J. Siddiqui, and Michael Szocki for their valuable work. We are obliged to SUNY Buffalo State College and SUNY Fredonia for the continuous support through their designated offices. Special thanks go to Dennis K. Ponton, Interim President of SUNY Buffalo State College, and Dennis L. Hefner, President of SUNY Fredonia, for endorsing CompIMAGE 2010, to Kevin J. Railey, Interim Provost of SUNY Buffalo State College, Mark W. Severson, Dean of the School of Natural and Social Sciences at SUNY Buffalo State College, and Kevin P. Kearns, Associate Vice President of Graduate Studies & Research at SUNY Fredonia, for their strong support. In addition to our main sponsors, SUNY Buffalo State College, SUNY Fredonia, and the University of Porto, many thanks for endorsing the event go to a number of foundations and associations, such as APMTAC, FCT, INEGI, and IDMEC.”

Finally, we wish to thank Springer for the pleasant cooperation in the timely production of this volume.

May 2010

Reneta P. Barneva
Valentin E. Brimkov
Herbert A. Hauptman
Renato M. Natal Jorge
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The Second International Symposium on Computational Modeling of Objects Represented in Images: Fundamentals, Methods, and Applications, CompIMAGE 2010, was held in Buffalo, NY, USA, May 5-7, 2010.

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