Emerging Trends in
Computer Science & Applied Computing
Emerging Trends in Image Processing, Computer Vision, and Pattern Recognition
Edited by
Leonidas Deligiannidis
Hamid R. Arabnia
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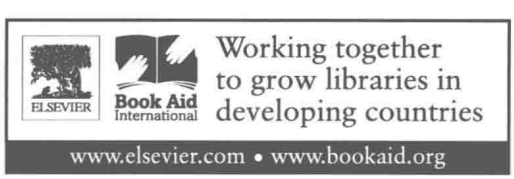

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Preface

It gives me a great pleasure to introduce this collection of papers to the readers of the book series "Emerging Trends in Computer Science and Applied Computing" (Morgan Kaufmann/Elsevier). This book is entitled *Emerging Trends in Image Processing, Computer Vision, and Pattern Recognition*. I am indebted to Professor Leonidas Deligiannidis of Wentworth Institute of Technology (Boston, MA) for acting as the senior editor of this book. His tireless energy, leadership and strategic ability made the implementation of this project a wonderful experience.

From the computer science perspective, the core of imaging science includes the following three intertwined computer science fields, namely: image processing, computer vision, and pattern recognition. This book covers the emerging trends in these three important areas. There is significant renewed interest in each of these three fields because of the Big Data initiative with applications as diverse as computational biology, biometrics, biomedical imaging, robotics, security, knowledge engineering, and others. Although, the topic of Big Data Analytics is not explicitly addressed in this book, many algorithms and methodologies that appear in this book can be applied (some with straightforward extensions) to Big Data.

This book is composed of selected papers that were accepted for the 2013 and 2014 international conference on image processing, computer vision, and pattern recognition (IPCV'13 and IPCV'14), July, Las Vegas, USA. Selected authors were given the opportunity to submit the extended versions of their conference papers for publication consideration in this book. The IPCV annual conferences are held as part of the World Congress in computer science, computer engineering, and applied computing, WORLDCOMP. An important mission of WORLDCOMP includes "Providing a unique platform for a diverse community of constituents composed of scholars, researchers, developers, educators, and practitioners. The Congress makes concerted effort to reach out to participants affiliated with diverse entities (such as universities, institutions, corporations, government agencies, and research centers/labs) from all over the world. The congress also attempts to connect participants from institutions that have *teaching* as their main mission with those who are affiliated with institutions that have *research* as their main mission. The congress uses a quota system to achieve its institution and geography diversity objectives." Since this book is composed of the extended versions of the accepted papers of IPCV annual conferences, it is no surprise that the book has chapters from highly qualified and diverse group of authors.

I am very grateful to the many colleagues who offered their services in organizing the IPCV conferences. Their help was instrumental in the formation of this book. The members of the editorial committee included:

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