

Preface

Sports is said to be the social glue of society. It allows people to interact irrespective of their social status or age. With the rise of the mass media, a significant quantity of resources has been channeled into sports in order to improve understanding, performance and presentation. For example, areas like performance assessment, which were previously mainly of interest to coaches and sports scientists, are now finding applications in broadcast and other media, driven by the increasing use of online sports viewing which provides a way of making all sorts of performance statistics available to viewers. Manual creation of data describing details in sports events is tiresome and in many cases simply unrealistic. Technology is therefore becoming more and more crucial as the demand for improved understanding, performance and presentation increases. Moreover, since the nature of most sports means that monitoring by the use of sensors or other devices fixed to players or equipment is generally not possible, a rich set of opportunities exist for the application of computer vision techniques to help the competitors, trainers and audience.

The purpose of this book is to present the state-of-the-art as well as current research challenges in applying computer vision to problems in sports. The book was inspired by the CVPR'13 workshop titled *Computer Vision in Sports*. The workshop was well received and therefore led to the idea of this book. About half of the 14 chapters in this book are extended workshop papers, whereas the rest are invited papers from research groups active within this field. The book is organized into four parts focused on answering the following four research questions:

Where is the Ball?

Where are the Players?

What are they Playing?

What's Going on?

These four parts are preceded by an introductory chapter that outlines the opportunities for applying computer vision in sports, using examples of some current commercial products. It also explains how the different chapters in this book extend the state of the art and fit into the bigger picture.

The editors would first of all like to thank the authors for contributing to this book. Without you there wouldn't be a book! Second, we also like to thank the reviewers for providing constructive feedback helping to sharpen each chapter. Lastly, we would like to thank Wayne Wheeler from Springer for taking the initiative to organize this book and for guidance during the entire process of putting this book together.

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