# Preface

It gives me great pleasure to introduce this collection of papers to the readers of the book series “Intelligent Computing” (De Gruyter). This book is entitled *Imaging Science: Computer Vision, Image and Signal Processing, Pattern Recognition*. Imaging Science, viewed through the lens of computer science, is fundamentally built upon the interplay of three core disciplines: image processing, computer vision, and pattern recognition. This book delves into the exciting emerging trends within each of these fields, all of which are experiencing a significant resurgence in interest driven largely by the rise of Big Data. The implications of this renewed focus are far-reaching, impacting diverse application areas such as computational biology, biometrics, biomedical imaging, robotics, security, knowledge engineering, and many others. While the specific topic of Big Data analytics is not explicitly addressed as a standalone subject, the book provides a rich collection of algorithms and methodologies that can be applied, often with straightforward extensions or modifications, to the challenges and opportunities presented by Big Data. This foundation equips readers to understand and contribute to the evolving landscape of imaging science in the age of massive datasets.

This book is composed mainly of selected papers that were accepted for the 2022 and 2023 International Conferences on Computational Science and Computational Intelligence (CSCI’22 and CSCI’23) and the 2023 and 2024 International Conference on Computer Science, Computer Engineering, and Applied Computing (CSCE’23 and CSCE’24). Selected authors were given the opportunity to submit the extended versions of their conference papers for publication consideration in this book. An important mission of CSCI and CSCE annual conferences is to provide a unique platform for a diverse community of constituents composed of scholars, researchers, developers, educators, and practitioners. The Congress makes a concerted effort to reach out to participants affiliated with diverse entities (e.g., 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 extended versions of the accepted papers of CSCI and CSCE annual conferences, it is no surprise that the book has chapters from highly qualified and diverse groups of authors.

We are very grateful to the many colleagues who offered their services in organizing the CSCI and CSCE conferences. Their help was instrumental in the formation of this book. The members of the editorial committees appear on the websites of CSCI and CSCE. We express our gratitude to Steve Elliot (De Gruyter Editor) and Adelinde Luyken (De Gruyter Content Editor). We hope that you benefit from reading this book as much as we did.

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