The emergence of the field of Big Data Analytics has prompted the practitioners and leaders in academia, industry, and governments across the world to address and decide on different issues in an increasingly data-driven manner. Yet, often Big Data could be too complex to be handled by traditional analytical frameworks. The varied collection of themes covered in this title introduces the reader to the richness of the emerging field of Big Data Analytics in terms of both technical methods as well as useful applications.

The idea of this title originated when we were organizing the “Statistics 2013, International Conference on Socio-Economic Challenges and Sustainable Solutions (STAT2013)” at the C.R. Rao Advanced Institute of Mathematics, Statistics and Computer Science (AIMSCS) in Hyderabad to mark the “International Year of Statistics” in December 2013. As the convener, Prof. Saumyadipta Pyne organized a special session dedicated to lectures by several international experts working on large data problems, which ended with a panel discussion on the research challenges and directions in this area. Statisticians, computer scientists, and data analysts from academia, industry and government administration participated in a lively exchange.

Following the success of that event, we felt the need to bring together a collection of chapters written by Big Data experts in the form of a title that can combine new algorithmic methods, Big Data benchmarks, and various relevant applications from this rapidly emerging area of interdisciplinary scientific pursuit. The present title combines some of the key technical aspects with case studies and domain applications, which makes the materials more accessible to the readers. In fact, when Prof. Pyne taught his materials in a Master’s course on “Big and High-dimensional Data Analytics” at the University of Hyderabad in 2013 and 2014, it was well-received.
We thank all the authors of the chapters for their valuable contributions to this title. Also, we sincerely thank all the reviewers for their valuable time and detailed comments. We also thank Prof. C.R. Rao for writing the foreword to the title.

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