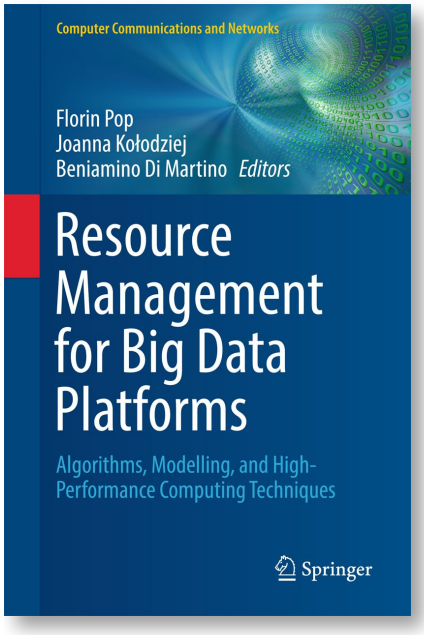

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F. **Pop**, J. **Kołodziej**, B. **Di Martino** (Eds.)

Resource Management for Big Data Platforms

Algorithms, Modelling, and High-Performance Computing Techniques

Series: Computer Communications and Networks

- **Provides a comprehensive overview of the development of RMS for big data platforms and applications, covering theory, methodologies, experimentation, and real-world applications**
- **Presents state-of-the-art solutions for issues of big data processing, resource and data management, fault tolerance, monitoring and controlling, and security**
- **Discusses the development of related programming models and technologies in information and communication, and how these help in formulating practical solutions for the topics covered**

This book constitutes a flagship driver towards presenting and supporting advance research in the area of Big Data platforms and applications. Extracting valuable information from raw data is especially difficult considering the velocity of growing data from year to year and the fact that 80% of data is unstructured. In addition, data sources are heterogeneous (various sensors, users with different profiles, etc.) and are located in different situations or contexts. Successful contributions may range from advanced technologies, applications and innovative solutions to global optimization problems in scalable large-scale computing systems to development of methods, conceptual and theoretical models related to Big Data applications and massive data storage and processing. The book provides, in this sense, a platform for the dissemination of advanced topics of theory, research efforts and analysis and implementation for Big Data platforms and applications being oriented on methods, techniques and performance evaluation.

This book presents new ideas, analysis, implementations and evaluation of next-generation Big Data platforms and applications. In 23 chapters, several important formulations of the architecture design, optimization techniques, advanced analytics methods, biological, medical and social media applications are presented. These subjects represent the main objectives of ICT COST Action IC1406 High-Performance Modelling and Simulation for Big Data Applications (cHiPSet) and the research presented in these chapters was performed by joint collaboration of members from this action. This volume will serve as a reference for students, researchers and industry practitioners working in or interested in joining interdisciplinary works in the areas of intelligent decision systems using emergent distributed computing paradigms. It will also allow newcomers to grasp the key concerns and potential solutions for the selected topics.