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Nota di contenuto	Part I State-of-the-Art Architectures and Automation for Data-analytics -- Chapter 1. Scaling the Java Virtual Machine on a Many-core System -- Chapter 2.Scaling the Java Virtual Machine on a Many-core System -- Chapter 3.Least-squares based Machine Learning Accelerator for Big-data Analytics in Smart Buildings -- Chapter 4.Compute-in-memory Architecture for Data-Intensive Kernels -- Chapter 5. New Solutions for Cross-Layer System-Level and High-Level Synthesis -- Part II New Solutions for Cross-Layer System-Level and High-Level Synthesis -- Chapter 6.Side Channel Attacks and Efficient Countermeasures on Residue Number System Multipliers -- Chapter 7. Ultra-Low-Power Biomedical Circuit Design and Optimization: Catching The Don’t Cares -- Chapter 8.Acceleration of MapReduce Framework on a Multicore Processor -- Chapter 9. Adaptive dynamic range compression for improving envelope-based speech perception: Implications for cochlear implants -- Part III Emerging Technology, Circuits and Systems for Data-analytics -- Chapter 10. Emerging

Technology, Circuits and Systems for Data-analytics -- Chapter 11. Energy Efficient Spiking Neural Network Design with RRAM Devices -- Chapter 12. Efficient Neuromorphic Systems and Emerging Technologies - Prospects and Perspectives -- Chapter 13. In-memory Data Compression Using ReRAMs -- Chapter 14. In-memory Data Compression Using ReRAMs -- Chapter 15.Data Analytics in Quantum Paradigm – An Introduction.

Sommario/riassunto

This book describes the current state of the art in big-data analytics, from a technology and hardware architecture perspective. The presentation is designed to be accessible to a broad audience, with general knowledge of hardware design and some interest in big-data analytics. Coverage includes emerging technology and devices for data-analytics, circuit design for data-analytics, and architecture and algorithms to support data-analytics. Readers will benefit from the realistic context used by the authors, which demonstrates what works, what doesn’t work, and what are the fundamental problems, solutions, upcoming challenges and opportunities. Provides a single-source reference to hardware architectures for big-data analytics; Covers various levels of big-data analytics hardware design abstraction and flow, from device, to circuits and systems; Demonstrates how non-volatile memory (NVM) based hardware platforms can be a viable solution to existing challenges in hardware architecture for big-data analytics.