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Soggetti	Electronic digital computers—Evaluation Computer networks Microprocessors Computer architecture Application software Logic design Operating systems (Computers) System Performance and Evaluation Computer Communication Networks Processor Architectures Computer and Information Systems Applications Logic Design Operating Systems
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Nota di contenuto	Why High-Performance Modelling and Simulation for Big Data Applications Matters -- Parallelization of hierarchical matrix algorithms for electromagnetic scattering problems -- Tail Distribution and Extreme Quantile Estimation using Non-Parametric Approaches --

Towards efficient and scalable data-intensive content delivery: State-of-the-art, issues and challenges -- Big Data in 5G Distributed Applications -- Big Data Processing, Analysis and Applications in Mobile Cellular Networks -- Medical Data Processing and Analysis for Remote Health and Activities Monitoring -- Towards human cell simulation -- Cloud-based High Throughput Virtual Screening in Novel Drug Discovery -- Ultra Wide Band Body Area Networks: Design and integration with Computational Clouds -- Survey on AI-based multimodal methods for emotion detection -- Forecasting Cryptocurrency Value by Sentiment Analysis: An HPC-oriented Survey of the State-of-the-Art in the Cloud Era.

Sommario/riassunto

This open access book is the final compendium of case studies emanated from the 4-year COST Action IC1406 "High-Performance Modelling and Simulation for Big Data Applications" (cHiPSet). Funded by the European Commission from 2015, cHiPSet has created a sustainable reference network linking applied research in High Performance Computing (HPC) and Modelling & Simulation to tangibly address Big Data challenges. cHiPSet has enabled research partnerships for dozens of academics and industry practitioners located in 34 COST countries, as well as in Australia, Belarus, Brazil, China, Russia, and the USA. As a cooperation framework, cHiPSet has reached out to new audiences such as ICT professionals, commercial software developers, and the general public. At a time when Big Data has become a common household term, cHiPSet has strived to become a knowledge hub where data-driven HPC meets Modelling & Simulation. cHiPSet has also endeavoured to use and exploit results through Open Science practices, i.e., open access publication, open access to data repositories, and open-source software development. A testament to this philosophy, this compendium is set to become a required reference for the fast-changing fields of HPC, Big Data, and Modelling & Simulation.
