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Autore	Curry Edward
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Altri autori (Persone)	CurryEdward R AuerSoren <1975-> BerreArne J MetzgerAndreas PerezMaria S ZillnerSonja
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Nota di contenuto	Technologies and Applications for Big Data Value -- Part I: Technologies and Methods -- Trade-Offs and Challenges of Serverless Data Analytics -- Big Data and AI Pipeline Framework: Technology Analysis from a Benchmarking Perspective -- An Elastic Software Architecture for Extreme-Scale Big Data Analytics -- Privacy-Preserving Technologies for Trusted Data Spaces -- Leveraging Data-Driven

Infrastructure Management to Facilitate AIOps for Big Data Applications and Operations -- Leveraging High-Performance Computing and Cloud Computing with Unified Big-DataWorkflows: The LEXIS Project -- Part II: Processes and Applications -- The DeepHealth Toolkit: A Key European Free and Open-Source Software for Deep Learning and Computer Vision Ready to Exploit Heterogeneous HPC and Cloud Architectures -- Applying AI to Manage Acute and Chronic Clinical Condition -- 3D Human Big Data Exchange Between the Healthcare and Garment Sectors -- Using a Legal Knowledge Graph for Multilingual Compliance Services in Labor Law, Contract Management, and Geothermal Energy -- Big Data Analytics in the Banking Sector: Guidelines and Lessons Learned from the CaixaBank Case -- Data-Driven Artificial Intelligence and Predictive Analytics for the Maintenance of Industrial Machinery with Hybrid and Cognitive Digital Twins -- Big Data Analytics in the Manufacturing Sector: Guidelines and Lessons Learned Through the Centro Ricerche FIAT (CRF) Case -- Next-Generation Big Data-Driven Factory 4.0 Operations and Optimization: The Boost 4.0 Experience -- Big Data-Driven Industry 4.0 Service Engineering Large-Scale Trials: The Boost 4.0 Experience -- Model-Based Engineering and Semantic Interoperability for Trusted Digital Twins Big Data Connection Across the Product Lifecycle -- A Data SciencePipeline for Big Linked Earth Observation Data -- Towards Cognitive Ports of the Futures -- Distributed Big Data Analytics in a Smart City -- Processing Big Data in Motion: Core Components and System Architectures with Applications to the Maritime Domain -- Knowledge Modeling and Incident Analysis for Special Cargo.

Sommario/riassunto

This open access book explores cutting-edge solutions and best practices for big data and data-driven AI applications for the data-driven economy. It provides the reader with a basis for understanding how technical issues can be overcome to offer real-world solutions to major industrial areas. The book starts with an introductory chapter that provides an overview of the book by positioning the following chapters in terms of their contributions to technology frameworks which are key elements of the Big Data Value Public-Private Partnership and the upcoming Partnership on AI, Data and Robotics. The remainder of the book is then arranged in two parts. The first part “Technologies and Methods” contains horizontal contributions of technologies and methods that enable data value chains to be applied in any sector. The second part “Processes and Applications” details experience reports and lessons from using big data and data-driven approaches in processes and applications.Its chapters are co-authored with industry experts and cover domains including health, law, finance, retail, manufacturing, mobility, and smart cities. Contributions emanate from the Big Data Value Public-Private Partnership and the Big Data Value Association, which have acted as the European data community's nucleus to bring together businesses with leading researchers to harness the value of data to benefit society, business, science, and industry. The book is of interest to two primary audiences, first, undergraduate and postgraduate students and researchers in various fields, including big data, data science, data engineering, and machine learning and AI. Second, practitioners and industry experts engaged in data-driven systems, software design and deployment projects who are interested in employing these advanced methods to address real-world problems.