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Nota di contenuto	Introduction -- Section 1: Fundamentals of the Industry 4.0 -- Fundamental of IoT -- Architecture of IoT -- Automation -- Big data challenges -- Cloud computing services -- convergence of IoT and cloud computing -- Section 2: Emerging trends in Artificial Intelligence -- Knowledge representation -- Machine learning -- Deep learning -- AI based industry automation -- Section 3: AI based data management, architecture and framework -- Algorithms and techniques for data management and cloud -- Reference architectures -- Frameworks for integrating IoT, ML and Cloud -- Section 4: Software Portability and Virtual Machine Design -- Virtual Machine designs -- VM design and programming-language/compiler theory concerns -- Section 5: Security for industry 4.0 -- Industry 4.0 -- Artificial intelligence -- Machine Learning -- Signal Processing -- Multimedia -- Big data -- Software Portability -- Virtual Machines -- Conclusion. .
Sommario/riassunto	This book presents some of the most advanced leading-edge

technology for the fourth Industrial Revolution -- known as "Industry 4.0." The book provides a comprehensive understanding of the interconnections of AI, IoT, big data and cloud computing as integral to the technologies that revolutionize the way companies produce and distribute products and the way local governments deliver their services. The book emphasizes that at every phase of the supply chain, manufactures are found to be interweaving AI, robotics, IoT, big data/machine learning, and cloud computing into their production facilities and throughout their distribution networks. Equally important, the authors show how their research can be applied to computer vision, cyber security, database and compiler theory, natural language processing, healthcare, education and agriculture. Presents the fundamentals of AI, IoT, and cloud computing and how they can be incorporated in Industry 4.0 applications Motivates readers to address challenges in the areas of speech communication and signal processing Provides numerous examples, case studies, technical descriptions, and approaches of AI/ML.