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Nota di contenuto	1.Industrial Cyber-physical systems: control problems and solutions.A Bibliometric Analysis Approach -- 2.Methods and technologies for streaming primary processing and analysis of big data from multi-assortment production for predicting polymeric film quality -- 3.Patent array analysis using a combination of ClickHouse and HDFS -- 4.Using patient medical description to expand the feature space in the cyber-physical breast cancer identification system -- 5.A comparison of feature extraction models for images with multiple annotations -- 6. Development of a knowledge base for the assessment of the threats of a road accident during the operation of a driving car -- 7.Modeling the operation of a digital twin of a conveyor line -- 8.Simulation of Agricultural Unmanned Vehicle System during a Virtual Commissioning -- 9.A model of flexibility of administrative documents used in technologies for entry of documents into a computer -- 10. Mathematical modeling of electrolysis technology for hydrogen production and process control -- 11.Modeling of hydroelastic vibrations of the channel wall on a foundation with softening nonlinearity for predicting the wall response of the channel wall -- 12.

Optimization of Heterogeneous Cargo Transportation Using UAVs with Different Priority Schemes for Delivery Tasks -- 13.Intelligent Distribution Electrical Grid Section Efficiency Analysis -- 14.The new method for automatic vectorization efficiency increasing -- 15.Efficient selection of stochastic parameters of parallel population algorithms and their impact on the quality of the solution -- 16.Genetic Quantum Algorithms with Binary Observation.

Sommario/riassunto

This book is devoted to new approaches to modeling and design of cyber-physical systems. Nowadays, cyber-physical systems become widely used in different domains. Scientific society suggests new approaches to engineering and optimization of cyber-physical systems, however, there are still open questions that need to be covered by research and development. It presents results and findings in the field of Data Science and digital twin engineering for cyber-physical systems. This book provides scientific, practical, and methodological approaches to modeling of complex processes for cyber-physical systems. The authors highlight essential results on software optimization in cyber-physical systems. The target audience of the book are practitioners, enterprise representatives, scientists, Ph.D., and master’s students who perform scientific research or applications of cyber-physical systems for various domains.