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Disciplina	003.3
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Nota di contenuto	Approach to Development of Digital Twin Model for Cyber-Physical System in Conditions of Conceptual Uncertainty -- Constructing Mathematical Models for Actuarial Processes -- Functional Planning Optimization of Exploiting Underground Space in Large Cities Using System Methodology -- Analysis and Modelling of the Underground Tunnel Planning in Uncertainty Conditions -- Stabilization of Impulsive Processes of the Cognitive Map to Cryptocurrency Usage with Multirate Sampling and Coordination between Some Nodes Parameters -- Wireless Sensor Networks for Healthcare on SoA -- Improving Predictive Models in the Financial Sector Using Fractal Analysis -- K-Ir Modeling with Neural Economy and its Utilization in Unclear Data -- Formalization and Development of Autonomous Artificial Intelligence Systems -- Attractors for Differential Inclusions and Their Applications for Evolution Algorithms -- System Analysis and Method of Ensuring Functional Sustainability of the Information System of a Critical Infrastructure Object -- Intellectual Data Analysis and Machine Learning Approaches for Car Insurance Rates Reconstruction -- On Generation of Daily Cloud-Free Satellite Images at High Resolution

Level -- Computational Intelligence for Digital Healthcare Informatics  
-- Continuous and Convex Extensions Approaches in Combinatorial Optimization -- Action Encoding in Algorithms for Learning  
Controllable Environment -- Comparison of Constrained Bayesian and Classical Methods of Testing Statistical Hypotheses in Sequential Experiments -- Investigation of Artificial Intelligence Methods in the Short-Term and Middle-Term Forecasting in Financial Sphere -- Neo-Fuzzy Radial-Basis Function Neural Network and Its Combined Learning  
-- Investigations of Different Classes Hybrid Deep Learning Networks and Analysis of Their Efficiency in Forecasting -- Generalized Models of Logistics Problems and Approaches to Their Solution Based on the Synthesis of the Theory of Optimal Partitioning and Neuro-Fuzzy Technologies -- Technological Principles of Using Media Content for Evaluating Social Opinion -- Scenario Modelling in the Context of Foresight Studies -- Assessing the Development of Energy Innovations and Its Impact on the Sustainable Development of Countries -- Studies of the Intercivilization Fault Level Dynamics -- Exploring the Vulnerability of Social Media for Crowdsourced Intelligence under a False Flag.

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#### Sommario/riassunto

This book contains the latest scientific work of Ukrainian scientists and their colleagues from other countries of the world in three interrelated areas: systems analysis, artificial intelligence and data mining. The included articles present the theoretical foundations and practical applications of the latest tools and methods of artificial intelligence, scenario planning, decision making and computational intelligence for important areas of human activity. The tools and methods presented in the book are continuously evolving and finding new applications across various fields, contributing to advancements and efficiencies in different industries: healthcare, finance, retail and E-commerce, manufacturing and industrial automation, transportation and logistics advancements and cybersecurity. The results of the book are useful to teachers, scientists, graduate students of universities and managers of large companies specializing in strategic planning, engineering design of complex systems, decision-making, optimization of operations and other related fields of knowledge and practice.

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