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THE CYBERNETIC APPROACH TO COMPANIES INFORMATION RESOURCES MANAGEMENT

V. Abrosimov

Annotation

In article is viewing to use a method of analogies for construction of information resources control system of the organization. The principles of the classical theory of controlling are used as analog. Concepts «object», «controls», «program» of control, «feedback», operating «signals» and «influences» for information resources of the organizations are offered. Problems and functions of information resources control system of organizations are also described.

Key words: information resources, control, efficiency, monitoring, optimization.

MULTIVARIATE ABC-CLASSIFICATION. CRITERIA OF QUALITY AND INITIAL ALGORITHMS

V. Belov, J. Koritchneva

Annotation

The initial algorithms of multivariate ABC-classification intended for the decision of a problem of reduction of information space of management by commodity-material resources of business entity are offered.

Key words: ABC-classification, scalar classification, multivariate classification, criteria of quality, initial algorithms.

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BI-CRITETIA MODELS AND PARETO-OPTIMAL STRATEGIES SYNTHESYS ALGORITHMS OF LINEAR-DISTRIBUTED OBJECTS GROUP

N. Dunichkina

Annotation

The single-stage servicing model of the stationary objects group which located along one-dimensional working zone is considered. The servicing is realized by two processors moving in the working zone in the same direction. Two individual penalties are associated with every object. Every penalty is a monotonically increasing function of the servicing completion time. Complete Pareto-set synthesis problems of optimal strategies are considered. The solving recurrent formulas of dynamic programming approach are worked out, the implementation algorithms and servicing strategies generation methods are described.

Key words: scheduling theory, dynamic programming, pareto-optimality, NP-complexity.

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MULTIPLE DECISION PROCEDURES FOR THE ANALYSIS OF HIGHER SCHOOL ENTRY SELECTION RESULTS

A. Koldanov, P. Koldanov

Annotation

Problem of multiple comparisons of several populations on small samples and specificity of the method of it solution are analyzed. It is proposed to extend a classical method for constructing statistical tests by the use of information preprocessing. Examples of the application of the proposed method are given.

Key words: multiple decision statistical procedures, generating hypotheses, homogeneity groups, unbiased tests of pair wise comparisons.

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ALGORITHMS FOR A RECOMMENDER SYSTEM: LENKOR TECHNOLOGY

D'yakonov A.G.

Annotation

This paper presents the algorithms which ranked 1st in the ECML/PKDD 2011 discovery challenge (VideoLectures.Net Recommender System Challenge) focused on recommendation tasks for VideoLectures.net website. The challenge included two tasks. In the first task participants had to recommend new lectures (for which complete descriptions were only available, but there was no statistical information on popularity) to new users (who had watched only one lecture). In the second task there was statistical information presented in non-classical aggregated format.

Key words: recommender systems, estimations of popularity, LENKOR technology for problem solving, content-based methods, data mining, lecture recommendation.

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IT IMPACT ON THE FIRM PRODUCTIVITY IN RUSSIA: METHODOLOGY OF EMPIRICAL INVESTIGATION

K. Zimin, A. Markin, K. Skripkin

Annotation

The paper considers methodology of information technology productivity effects in Russian business empirical investigation. It focuses on two problems: factors, determining IT-budget of a Russian firm, and the impact of IT investment on the productivity of the latter. Answer to the first question is based on a regression analysis of Russian firms IT budgets, to the second question – on a production functions, using IT capital as a parameter. Data sources for such an investigation are also considered.

Key words: information technology, factor productivity, production function, IT efficiency.

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POTENTIAL PROFITABILITY OF INFORMATIONAL OBJECTS

R. Budnik

Annotation

In this work the potential profitability is considered as additional criteria for classification of informational objects. It is discovered that potential profitability of the one part of information objects grows along with increase of its prevalence and drop for another part. In the article is revealed a regulatory gap of actual legislation for effective use of information objects with growing profitability along with its prevalence increase. It is offered to bridge the gap with the legal method of access encouragement for the specific class of information objects added into intellectual property law.

Key words: profitability of informational objects, access encouragement method, intellectual property law.

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PRODUCTION RULE SYSTEM FOR THE CHOICE OF SOFTWARE PRODUCTS OF SYSTEM «1C:ENTERPRISE 8»

T. Adueva, A. Akhaev, I. Khodashinsky

Annotation

In this article the approach to classification of software products of system «1C:Enterprise 8» is described. Production rule system for the choice of these programs is developed on the basis of the offered classification. The approach to formation of working memory is described. Knowledge base description language developed for this system is presented. On the basis of the received results the prototype production rule systems is realized.

Key words: production rule system, classification software products of system «1C:Enterprise 8», working memory, knowledge base, knowledge base description language.

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METHODS OF CONSTRUCTION HIGH PERFORMANCE COMPUTING ENVIRONMENT PROCESS CONTROL SYSTEMS

A. Ostroverh, A. Tsyrkov, A. Krishtop, G. Tsyrkov

Annotation

In the paper an integrated solution for establishing a high-performance computing environment for production control of complex technical products is considered. The requirements to the solutions, and methods for production improvement are proposed.

Key words: cross-functional organizational structure, technical and economic forecasting, intelligent communications medium, invariant information model, parallel computing processes.

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METHOD OF ENERGY BALANCING IN A STATIC WIRELESS SENSOR NETWORKS WITH AUTONOMOUS ENERGY SOURCES

L. Voskov, M. Komarov

Annotation

In this work it was explained why the energy balancing in a static wireless sensor networks with autonomous energy sources is actual nowadays. We presented mathematical model of static wireless sensor network which considers external influence. We presented method of energy balancing in a static wireless sensor networks with autonomous energy sources and experimental results which show increasing work efficiency of static WSN with autonomous energy sources by increasing nodes lifetime and decreasing nodes energy consumption.

Key words: wireless sensor networks, energy balancing, autonomous network, stationary network.