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(editors)

**New Trends  
in  
Classification and Data Mining**

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**Krassimir Markov, Vladimir Ryazanov, Vitalii Velychko, Levon Aslanyan (ed.)**  
**New Trends in Classification and Data Mining**

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This book maintains articles on actual problems of classification, data mining and forecasting as well as natural language processing:

- new approaches, models, algorithms and methods for classification, forecasting and clusterisation. Classification of non complete and noise data;
- discrete optimization in logic recognition algorithms construction, complexity, asymptotically optimal algorithms, mixed-integer problem of minimization of empirical risk, multi-objective linear integer programming problems;
- questions of complexity of some discrete optimization tasks and corresponding tasks of data analysis and pattern recognition;
- the algebraic approach for pattern recognition - problems of correct classification algorithms construction, logical correctors and resolvability of challenges of classification, construction of optimum algebraic correctors over sets of algorithms of computation of estimations, conditions of correct algorithms existence;
- regressions, restoring of dependences according to training sampling, parametrical approach for piecewise linear dependences restoration, and nonparametric regressions based on collective solution on set of tasks of recognition;
- multi-agent systems in knowledge discovery, collective evolutionary systems, advantages and disadvantages of synthetic data mining methods, intelligent search agent model realizing information extraction on ontological model of data mining methods;
- methods of search of logic regularities sets of classes and extraction of optimal subsets, construction of convex combination of associated predictors that minimizes mean error;
- algorithmic constructions in a model of recognizing the nearest neighbors in binary data sets, discrete isoperimetry problem solutions, logic-combinatorial scheme in high-throughput gene expression data;
- researches in area of neural network classifiers, and applications in finance field;
- text mining, automatic classification of scientific papers, information extraction from natural language texts, semantic text analysis, natural language processing.

It is represented that book articles will be interesting as experts in the field of classifying, data mining and forecasting, and to practical users from medicine, sociology, economy, chemistry, biology, and other areas.

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