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SEARCH FOR REGULARITIES BY INTERVALS OF VALUES OF QUANTITATIVE FEATURES

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ABSTRACT

The problem of searching for hidden patterns in a sample of objects described by the initial and combined features is considered. The knowledge obtained on the basis of dividing the values of quantitative attributes into intervals is presented in the form of a set of fuzzy inference rules. The methodology of using these rules for decision making is described.

KEYWORDS: *Hidden Patterns, Latent Features, Domination Intervals, Partition Stability, Fuzzy Inference Rules.*

REFERENCES

1. Nikolaev A.B., Fominykh I.B. (2003). *Intelligent analysis and data processing*. Tutorial. - Moscow: MADI (STU), – p. 119.
2. Orlov A.I. (2012). *Measurement theory and methods of data analysis // Modern sociology of modern Russia*. Digestofarticles. Moscow: NRUHSE, – pp. 217-225
3. Juravlev Y.I., Gurevich I.B. (2000). *Pattern recognition and image analysis // Artificial Intelligence: Models and Methods*. T. 1. - Moscow: Radio and communication, –p. 310.

4. Juravlev Y.I. (1989) *On algebraic methods in problems of recognition and classification // Recognition, classification, forecasting. Mathematical methods and their application.* Moscow: Nauka., Issue 1. – pp. 9-16.
5. Juravlev Y.I. (1978). *On an algebraic approach to solving problems of recognition and classification // Problems of Cybernetics.* Moscow: Science. – pp. 5-68
6. Krivenko M.P. (2016) *Significance criteria for selection of classification signs // Informatics and its application, Vol 10, Issue 3, – pp. 32–40*
7. Vapnik V.N. (1979). *Recovering dependencies from empirical data.* – Moscow: Nauka, –p. 447.
8. Ripley B.D. (2005). *Pattern Recognition and Neural networks // Cambridge university press, – 403 p. (Ripley B.D. Pattern Recognition and Neural networks// Cambridge university press, 2005.-403 p.)*
9. Shunina Y.S., Alekseeva V.A., Klyachkin V.N. (2015). *Performance criteria for classifiers.* - Bulletin of the Ulyanovsk State Technical University, No. 2 (70), – pp. 67–70.
10. Duke V. A. (2005). *Methodology of searching for logical patterns in the subject area with fuzzy systemology: Author's Abstract of Doctoral Diss. Of Technical Sciences, St. Petersburg, – p. 33*
11. Vorontsov K.V. *Mathematical teaching methods by precedents (machine learning theory)* Retrieved from: <http://www.ccas.ru/voron>
12. Ignatyev N.A., Madrakhimov Sh.F., Saidov D.Y. (2017). *Stability of object classes and selection of the latent features // International journal of engineering technology and sciences, Malaysia, Vol. 7, – pp. 1–10. (Ignatyev N.A., Madrakhimov Sh.F., Saidov D.Y.. Stability of object classes and selection of the latent features // International journal of engineering technology and sciences, 2017, Malaysia, Vol. 7, pp. 1-10.)*
13. Ignatiev N. A., Saidov D. Y. (2014) *Computing the complexity of effective algorithms for choosing the optimal boundaries of intervals // Problems of Informatics and Energy, - Tashkent, no. 6, – pp. 35–40.*
14. Ignatiev N.A. (2011). *Calculation of generalized indicators and data mining // Automation and tele-mechanics, No. 5, – pp. 183–190.*
15. Ignatiev N.A. (2014) *Generalized estimates and local metrics of objects in data mining.* Monograph. - Tashkent: Publishing House “University”, – p. 72.
16. Retrieved from online source: <http://archive.ics.uci.edu/ml/machine-learning-databases/echocardiogram>
17. Zadeh, L. (1965). *Fuzzy sets. Information and Control*, 8 (3): pp. 338 – 353. (Zadeh, L. (1965). Fuzzy sets. Information and Control, 8(3):338 – 353.)
18. Shtovba S.D. *Introduction to the theory of fuzzy sets and fuzzy logic / S. D. Shtovba.* Retrieved from: <http://matlab.exponenta.ru/fuzzy-logic/book1/index.php>.

- 19.** Buchanan, B. E. (1984). Rule based Expert Systems: The MYCIN Experiments of the Stanford Heuristic Programming Project. Addison-Wesley. (Buchanan, B. E. Rule based Expert Systems: The MYCIN Experiments of the Stanford Heuristic Programming Project. Addison-Wesley, 1984.)