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INFORMATION TECHNOLOGY AND SOFTWARE FOR SENTIMENT ANALYSIS OF MENTIONS

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Over the past few years the number of researches and publications in the field of opinion mining has extremely increased. This is due to the rapid growth of Internet resources, the increasing number of discussion boards, using social networks, which in turn led to an increase in the analyzed data and growth into an era of BigData. Thus a new industry of Opinion Mining and Sentiment Analysis in text data of online resources was formed. The article describes the following approaches to opinion mining as machine learning methods, using vocabulary sets and templates of sentences, semantic relations and understanding the meaning of sentences.

The aim and objective of this article is the development of information technology and software for evaluation value of opinion.

Subject of research – the process of decision-making problems in opinion mining and sentiment analysis.

Object of research – mathematical models, methods and tools for the classification of text documents in problems of opinion mining.

Research methods are based on the methods of set theory, graph theory methods, methods of probability theory, fuzzy logic methods, methods of classification of text documents, opinion mining.

Scientific novelty of the results:

1. The first time a generic algorithm for evaluating of opinion of object and the bringing together of numerical values of sentiment into a single integrated parameter using linguistic variables and weights was proposed.

2. The first time the information technology of opinion mining using linguistic variables and calculating the integral index of components of the object and the object in general was proposed.

The practical significance of the results:

1. Web-oriented system to calculate the weighting coefficients and integral index of opinion of object and compare objects according to quantitative indicators of user's opinion was designed and implemented. API was implemented which allowing a connection to a third-party software.

2. Information technology of opinion mining of textual information for the analysis of comments on the Internet was proposed.

Personal contribution of the applicant. The author got the basic statements and the results of scientific research on his own. Generalized algorithm of opinion mining and the bringing together of numerical values of sentiment into a single integrated parameter using linguistic variables and weights was substantiated. Software of the algorithm for calculating weighting coefficients and integral index by positive, negative and neutral mentions of users was developed.

Conclusions:

1. Information technology of opinion mining that allows to figure on the following important steps in calculating of opinion as semantic analysis of sentences and using linguistic variables for the purpose of expanding the range of possible values of opinion of object to improve the calculation of the generalized evaluation of the object was proposed and developed.

2. Software based on described information technology of opinion mining allows to calculate the weights component of object and integral indicator to compare multiple objects was developed.

Keywords – opinion, sentiment, sentiment analysis, object, integral indicator, linguistic variable, weighting coefficient.