

ABSTRACT

Master dissertation: 73 pp., 10 figures, 11 tables, 5 applications, 38 sources.

Topicality is concluded with that the number of applications that solve the problem of automatic abstract generation for the texts written in Ukrainian or Russian is extremely small, and the results of their work can not be called very effective in terms of mathematical indicators of the lexical proximity of texts. But the task of text summarization is quite important, especially given the number of textual data streams that are growing every day and for many professions - from lawmakers, journalists, and even the military – it's critical to process these streams faster. Similarly, abstracting is important for word processing - it greatly speeds up data exchange and has many potential applications.

The aim of the research is synthesis of a new mathematical and software solution for automatic abstracting of texts written in Ukrainian and Russian. To achieve this goal which were formulated **following tasks**:

- Existing theoretical methods of text summarization analysis
- Review of existing text summarization software
- Development of a new application and mathematical model for Russian and Ukrainian texts summarization
- Perform the analysis of the obtained results

The object of research is the mathematical models for automatic text summarization

The subject of research is the development of applications that will use existing methods or new methods of automatic text summarization of texts written in Ukrainian and Russian.

Research methods are the extraction methods of the text summarization based on the vector representation of the text

Scientific novelty of the obtained results. The most significant scientific results of the master's thesis are the development of its own algorithm for abstracting

texts and its implementation to solve the problem of abstracting texts written in Ukrainian and Russian.

Practical consequences of the results are determined by the fact that the proposed algorithm and the developed software application as a result of the experiment show better results than the existing approaches.

Relationship of work with scientific programs, plans, themes: The work was performed at the Department of Automated Information Processing and Management Systems of the National Technical University of Ukraine «Kyiv Polytechnic Institute. Igor Sikorsky ”within the topic“ Methods and technologies of high-performance computing and processing of large data sets ”. State Registration Number 0117U000924.

Publications: The research results were published in the thesis of the scientific conference of students, undergraduates and graduate students "Computer Science and Computer Engineering" - IOT-2019^[27].

AUTOMATIC TEXT SUMMARIZATION, EXTRACTIVE TEXT SUMMARIZATION METHODS, TEXTRANK, LATENT-SEMANTIC ANALYSIS, MATHEMATICAL MODELS OF TEXT REPRESENTATION