# ABSTRACT

**Actuality of theme:**

a) improving the quality of the definition of emotions in messages written in Ukrainian;

b) an effective tool for monitoring and evaluating group / channel topics.

**The purpose of the dissertation research** is to improve sentiment analysis in text data streams.

The methods and software developed must meet the **following requirements**:

- the quality of the proposed methods is higher than the existing models;

- adaptation of methods to support texts in different languages. This dissertation deals with the texts of users in Ukrainian and English;

- visualization of analysis results.

To achieve this goal, the following **tasks were formulated**:

a) to analyze existing methods and software solutions;

b) justify the choice of sentiment analysis method;

c) to develop a mathematical model for the classification of user messages by sentiment;

d) develop a method of analysis of the emotional component for streaming data;

e) to implement the proposed methods in the form of software. visualize the analysis of the emotional component of the flow over a given period of data and conduct experimental studies to determine the effectiveness of methods and models.

**Object and object of research**. The object of the study is the stream of user messages, represented as a stream of unstructured text in natural language.

**Research Methods**: In this dissertation, natural language processing methods based on rules, dictionaries and existing linguistic resources, and probabilistic thematic models based on a set of machine learning methods have been applied.

**Scientific Novelty**: This paper proposes improvements for methods of determining sentiment in texts written in Ukrainian, presented as a flow of unstructured textual data in natural language, using a machine learning algorithm with a teacher.

**The practical significance of the obtained results** is determined by the fact that the proposed enhancement to the algorithm can be used for applied analysis of the emotional content of the content of channels, groups, etc. in the telegram manager.

**Relationship with working with scientific programs, plans, topics**: 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.

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