

## ABSTRACT

Thesis: 89 pp., 49 fig., 18 tabl., 2 app., 19 cites.

DATA MINING, CLASSIFICATION, KERAS, NATURAL LANGUAGE PROCESSING, CONVOLUTION NEURAL NETWORKS, DEEP LEARNING

The object of study is advertisements at e commerce platform. The subject of study is classification model for advertisements. The aim of the study is:

1. to develop research methods and algorithms for text transformation into vectors;
2. to study algorithms and methods for text classification;
3. to build a software for advertisements classification
4. to analyze results

Theoretical and methodological basis of the study is the work of foreign researches in the field of data mining, mathematical modeling, data classification and marketing.

A software has been created to classify advertisements using their title and descriptions, and present the results of the program on real data.

The methodology is implemented on the basis of the already known Deep Neural Networks: convolution and recurrent using own developments, which include special architecture of neural networks and use of special regularizations to overcome overfitting problem.

The software is implemented using the Python programming language and framework for working with Neural Networks Keras. Recommendations for further research are given.