ABSTRACT

Thesis work contains: 110 pp., 19 fig., 9 tabl., 3 applications, 22 sources.

DATA ANALYSIS, WEB SERVERS, LOGs, NEURAL NETWORKS, WEB-APPLICATIONS, LOG ANALYTICS.

The object of the research is anomalies of the work of web servers. The subject of the study is the web servers' logs.

The aim of the study :

1) develop the necessary tools by log analytics methods for converting server logs into a data set for training neural network;

2) studying the types and methods of teaching neural networks to detect anomalies of web servers;

3) develop software that implements a recurrent neural network

4) develop software that implements the detection of anomalies in the web server's work by the time window of the data log.

The theoretical and methodological basis of the research is the work of foreign scientists in the field of data analysis, cybersecurity, mathematical modeling and server programming.

During the thesis was created a software product that with some precision determines whether the system's state of work is abnormal, as well as shown the results of work on real data.

The software product is implemented using C # and Python, the .NET framework and Flask. Recommendations for further research are given.