ABSTRACT

For the bachelors work of Illya Igorevych Barziy

"Neural networks models in the problems of financial processes forecasting"

The bachelors work consists of 93 p., 29 fig., 8 tabl., 2 append., 16 sources.

NEURAL NETWORKS, MACHINE LEARNING, TIME SERIES ANALYSIS, SHORT-TERM FINANCIAL PROCESS FORECASTING.

The purpose of given thesis is to improve the methods of forecasting the development of financial processes of different nature using neural network models.

In this work, research of the current methods used for financial forecasting had been carried out. The analysis of underlying processes, on which neural network models are based on, the implementation and testing of various types of them were completed, conclusions based on computational experiments were made.

The results of the study carried out is provided in the form of new models of neural networks and the analysis of the effectiveness of built neural networks models used to forecast time series; development of original neural network with two stages of learning, it's short-term forecasting results were compared with the same for ARIMA models. In this work the program module for neural network testing was build using deepnet R library.