# ABSTRACT

The topic: System analysis of server resource allocation for services execution

Thesis: 94p., 9 figures, 8 tables, 2 annexes, 30 sources.

The object of the study - the performance of services on the server.

Subject of research - monitoring and analysis of indicators, mathematical models and methods for describing the processes of variables in time.

Research methods - monitoring and forecasting of time series, regression analysis, neural networks.

The purpose of the work is to expand the functionality of the monitoring system in the direction of forecasting service indicators and support the decisions made regarding the allocation of server resources.

The paper reviews the main approaches to monitoring and analysis of service performance indicators. An overview of time series models and methods of forecasting is also conducted. The results of modeling and evaluation of the reason for the choice of the best model for monitoring indicators were analyzed.

A informative and analytical appendix to the monitoring system for predicting the server performance based on autoregressive models was created.

The application is implemented in the C # programming language.

Examples of applications for predicting and evaluating metrics on real data are given. The ways of possible further improvement of the system are considered.

MONITORING, SERVICE SYSTEM, FORECASTING, ATORAGRACY.