

ABSTRACT

Master`s thesis: 121 pages, 20 tables, 2 appendixes, 74 references.

Topicality. Forecasting the results of sports events is an area of research that develops not only at the expense of the ever-increasing interest of bookmakers, but also for more thorough training of athletes. By predicting the results of the competition, you can determine the "weak" places of the athlete in quantitative terms, determine the goal to be achieved before the next competition and suggest ways or means by which this achievement may become possible.

In this regard, the scientific task is the development of a new method for forecasting the results of sports competitions, which would more effectively solve the problem of prediction by combining existing and modified methods.

The work communication with academic programs, plans, themes.

The work was carried out at the Department of Automated Systems for Information Processing and Management of the National Technical University of Ukraine "Kyiv Polytechnic Institute. Igor Sikorsky "within the framework of the theme" Intellectual Data Analysis "(№UDK 519.68; 681.513.7; 612.8.001.57; 007.51 / .52).

Aim of the research is to increase the effectiveness of forecasting the results of sports matches.

Tasks of the research.

To achieve the goal you need to accomplish the following tasks:

- to develop a formal statement of the task of forecasting sporting events;
- develop a new system approach to forecasting the results of sporting events;
- develop a methodology for forecasting the results of sporting events, which combines the method of forecasting the Markov chains and neural networks;
- to modify the algorithm of forecasting the results of sports competitions using the Markov chains for forecasting sports competitions;
- implement a methodology for forecasting sports competitions in the form of a program product that can be used for forecasting.

Object of the research is the process of forecasting the results of sporting events.

Subject of research - methods and models of forecasting of results of sporting competitions.

Research methods used in this paper are based on the methods of machine learning and probability theory.

Scientific novelty of the results obtained is the development of a fundamentally new methodology for forecasting the results of sports competitions, which includes algorithms based on Markov chains and neural networks. The combination of these methods allowed for careful data analysis and the use of modified methods for prediction.

Aprovation of results of thesis. Abstracts of the report at the 8th international scientific and technical conference "Modern trends in the development of information and communication technologies and means of management", Kharkiv. Abstracts at the 4th International Scientific and Practical Conference "Actual Issues of Modern Science, Kyiv".

Abstracts of the report at the scientific and practical conference "Informatics and Computing IOT-2018", Kyiv. Issue of the Startup of the Sikorsky Challenge School.

Publications. According to the dissertation materials, a scientific article was published in the scientific and technical collection "Automobile roads and road construction", Series "Technical sciences" (ISSN 0365-8171).

FORECASTING SPORT COMPETITIONS, MARKOV CHAIN, THEORY OF THE POSSIBILITY, THE POSSIBILITY OF THE WINNING, NEURAL NETWORKS, STATISTICS