

## Features of monitoring methods of technical status of control objects based on artificial intelligence

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**Introduction.** Nowadays it is important to monitor the technical state of artificial intelligence in the context of control objects. The use of the multilayer artificial neural network (ANN) is highly recommended for problems of identification and predictions of the mentioned above objects based on artificial intelligence.

**Materials and methods.** Artificial neural networks are the most widely used methods of artificial intelligence in the field of monitoring and diagnostics of the technical state of objects. Excellent image recognition capability and the ability to recognize fuzzy and inaccurate signals made them popular and useful among technical experts [1], [2].

**Results.** The problem of artificial neural networks was considered by such scientists as Kishenko V.D., R. Nicholas, Lutska N.M., Batyuk A.E.

Besides, the analysis of latest research has shown that ANN includes the following features that allow them to be used in the field of information synthesis and machine fault diagnosis:

- ANN can be a multidimensional system with many inputs and outputs (MIMO - Multi-Input and Multi-Output). This structure shows that the ANN can handle complex numerical control problems caused by multiple damage at the same time;
- ANN processes information that comes in parallel, just as people process complex information. This feature indicates that ANN can connect information from different sources simultaneously and naturally;
- ANN has the opportunity to acquire new knowledge, similar to the ways in which humanity acquires knowledge. The learning process is carried out through the continuous regulation of weight values among neurons;
- ANN is some of the best approximation functions and can approximate any nonlinear function with any accuracy. They can be used not only for approximation but also for interpolation;
- ANN has good fault tolerance. This feature basically comes from the normal structure and distributed storage system. [1]

**Conclusion.** As a result, our research has analyzed the main features of monitoring the technical state of artificial intelligence-based management facilities. Thus, the main emphasis is placed on multilayer direct action ANN which is a basic feature for the complexities of the management, identification, forecasting of uncertainty and providing problem-solving with the help of artificial intelligence.

### References.

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