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THE USE OF NEURAL NETWORKS IN THE WORLD
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To find out where neural networks are used, the first step is to understand what they are. Neural networks are one of many ways to develop artificial intelligence. At the moment, almost all people talk about them, but first heard about neural networks in 1943. By the way, at that time, even the concept of «artificial intelligence» did not exist, and networks already existed [1].

Neural networks have come to be called that, because the way they work is quite similar to the functioning of the human nervous system. Specifically, its ability to learn and correct mistakes. This is the main feature of any neural network - it is able to learn independently and act on the basis of previous errors, each time gaining more experience, not to step on the same rake.

What is the feature of neural networks in learning? Without it, they would simply be another mathematical model like the others, but through learning they can shock the profane. Neural networks can recognize more complex, sometimes even unexpected, patterns in data. Explaining this in simple language is not so easy. In general, learning is about finding the correct connection coefficients between neurons, as well as generalizing data and identifying complex relationships between input and output signals. If it gets tricked very easily in the beginning, a few hundred thousand steps, it'll know if you're trying to give it something wrong.

The neural network mimics even the structure of our nervous system. Such networks consist of a large number of separate computational elements («neurons»). The parameters of each «neuron» can be changed depending on the results obtained on the previous input data sets.

Neural networks are used in many areas of our lives, especially those where it is necessary to reach the maximum level of human functionality. Today large companies, healthcare institutions and scientific institutions are increasingly using neural networks. But to create an effective technology that can operate in complex environments requires powerful equipment and a lot of information.

The main tasks that are solved through neural networks are: classification and recognition. The neural network groups objects by specific classes, such as company clients. Neural networks are also used to filter letters and advertisements. Neural networks are able to identify a particular object among many others, such as the face in the photo. It is already possible to create pictures, music and other difficult tasks with the help of neural networks.

The list of their applications is very wide. Here are some of the most useful and famous in history:

1. Diagnose diseases of crops and other plants by photo to 99.35%. 2. Forecast the weather with high accuracy. 3. Help you drive around the traffic is now, and in the future to work as assistant autopilots cars, constantly analyzing the information received. 4. Neural networks already have significant knowledge of human faces. They can determine age, sex, and mood from photos. Photography can now be used to identify humans. 5. Moreover, neural networks can process not only images, but also sound. For example, the Massachusetts Institute of Technology has developed a neural network called Speech2Face, which defines age, sex, and nationality by voice.

References

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