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Artificial Neural Networks

Artificial Neural Network is a mathematical model, made in the form of software or hardware, built on the principle of biological neural networks of living cells. The neural network is a system of connected processors interacting with each other. If you compare them with the biological analogue, you will understand that the artificial network and the network of neurons are almost the same things. These processors are usually simple (compared to a CPU used in a PC). Each network processor either receives signals for processing or sent it to other processors. But if they are connected in a huge network with controlled interaction, these «simple» processors in large quantities can complete incredibly complicated tasks.

What can the neural network do? The first function is the classification - the distribution of data according to certain attributes. The second is the prediction of the next steps in a logical system. The third function is recognition of something according to certain parameters. These are the three most common functions of neural networks nowadays.

Where are the neural networks used? Almost any task can be modified as to be solved by the neural network. Nowadays, modern economy has evolved. Automated trading, time series forecasting, optimization of commodity and cash flow - all these subjects are completed by the neural network. In robotics and avionics networks perform "self-learning" programs that can improve a control of these devices. Automation of large-scale production is improved significantly if it includes this kind of logistics. In fact, there is much more work that can be done by the neural networks. And this is not a publicity stunt. The neural network is a flexible and powerful tool for solving a variety of data processing and analysis tasks.