is associated with the previous one and contains a set of records. New blocks are always added strictly to the end of the chain.

A large number of different computers running on the same network perform the encryption process, known as hashing. If all of them in the end of their calculations obtain the same results, the block gets unique digital signature. As soon as the registry is updated and a new block is formed, it can no longer be changed. This makes impossible to forge blocks, you can only add new entries to them. It is important to consider that the registry is updated on all computers on the network at the same time.

The distributed nature of the blockchain databases makes hacking almost impossible, because hackers would need to access all copies of the database on all computers on the network. Technology also allows you to secure personal data, because the hashing process is irreversible. Even if the original document or transaction is later changed, they will receive a different digital signature as a result, which signals the system about mismatch.

Another substantial benefit of the blockchain is its transparency. Transparency means that all of the information stored in the blockchain database is always available for its users. This includes information on all of the transactions, contracts, etc.

The other key feature of this technology is the almost limitless capacity of the blockchain database. The way, that the blocks are connected to each other means that the length of the "chain" is only limited by a storage space of the computers on the network. The last block always has a link to the previous one and so on. This structure makes creation of the chain of any length possible.

One of the biggest use-cases of the blockchain for companies and the way which common people can use it too is tokenizing some asset or right. For example, some businessman already tokenized their work time, so the people that bought and own the tokens have legal right to the share of their time. Another way to use tokenization is to create "digital gold currencies" – form of digital currencies based on mass units of gold. That means that the rights for shares of gold that the company owns belong to the people holding that digital currency.

All things considered, the blockchain provides many features and benefits to the projects that use it. This technology has a great outlook for the governments and private companies alike. The way blockchain term itself was coined and the most common way to use blockchain architecture nowadays is to power digital "crypto-currencies" such as Bitcoin. But, as the time goes, more and more companies in many different fields start blockchain-based projects and benefit from all the added value this technology brings.

Scientific supervisor: Tereminko L.H.,
Senior Lecturer

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Khliobas V.P.
National Aviation University, Kyiv

NEURAL NETWORK

A neural network is a system that tries to analyze information in much the same way as the human brain and is able to learn in the process of its work thereby

improving its analytical abilities. The most obvious example of the use of neural networks is the rotation of two pictures into one with a mixed style.

After the release of all the famous applications with similar functions, the Internet was flooded with cobweb pictures of cats and paintings by Van Gogh. Neural networks appeared in our lives much earlier and much more deeply.

Application of Neural Network

In Yandex and Google neural networks are used to search for images on the uploaded photo, to recognize and even translate text on the image. In the phone chambers it is used to determine the position of the face and in various applications for control with the help of voice commands. Also, neural networks help to generate weather forecasts and low-cost catheters on the basis of previous data and do other "magical" things without which our modern life is impossible. And all of this is the least part of what these systems are capable of.

Principle of Human Brain

The operation principle of artificial neural networks is based on the one of the human brain. For example, when we visualize a bear, our brain perceives it as a spot of shapes and colors, then they transmit this chaotic information to the brain and it in its turn forms an understanding of the fact that all these visual objects are a bear.

The uniqueness of such system is that the more data pass through neural networks with more data for the system has to analyze, the smarter it becomes. Such systems are trained to accumulate definitions.

Principle of Artificial Neural Network

The machine neural networks are not as developed as a human, because they are built on linear networks where information flows from layer to layer, each of which processes its part of data in chain.

The majority of artificial neural networks work on the principle that neurons form layers each of which is responsible for processing certain information.

The resulting system assigns the desired robot algorithm. For the system to give correct results, it is necessary to explain to it what exactly is meant by the correct result. This system is to accomplish different tasks with further fixing the results and analyzing them in order to improve the system's performance.

Development Prospects

This means that neural networks can be taught to process information and since they are alien to human factors, they are easily trained. The development of this industry is a seven-step process. For example, Microsoft has introduced glasses with artificial intelligence to help blind people orient better.

Some scientists believe that with the help of neural network machines will be able to master creativity, for example, computers can now write poems and create masterpieces.

All things considered, it should be stated that there is still a constant need for developing neural networks and implementing new effective techniques and methods for creating devices that will be indispensable for human beings.

Scientific supervisor: Yurchenko S.O.,
Senior Lecturer