HISTORY OF ROBOTICS

Meliboev Rakhmatjon Inomjonovich
KDPI Technological Training Department

Annotation

This article contains information about the science of robotics, the history of robotics, information about the main classes of robotics.

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Robotics (Czech.- forced labor + ancient Greek: τέχνη — art;English: robotics) is a combined branch of Mechanical, Electrical and electronic engineering and computer science that deals with the construction, operation and use of robots, as well as their control, sensing and data processing.

Robotics is a science that, in addition to robots, studies the development and ways of using the latest technical integration of automated technical systems and production processes.Automated machines, in other words, robots can work instead of people in assembly processes in hazardous areas or factories. Robots can be very similar in appearance, behavior and perception to humans. Scientists are currently trying to make human-shaped robots look as human as possible.

Autonomous robots have been thought of since ancient times, but research in this regard began until the twentieth century. Since the fairytale period, robots have been predicted to one day perform human work, imitating human behavior. Today robotics is a rapidly developing field. As technology develops rapidly, robotics is also developing rapidly because Robotics is closely related to technology. With the development of technology, research and development are changing and developing, as a result of which the field of application of robots is also growing. Today robots are used in homes, businesses and the military field. Many robots are used in situations that cause direct damage to humans, such as neutralizing mines and bombs.

Although Robotics does not research and develop any robots, these robots must obey Isaac Asimov's three laws. He outlined the laws in the story "Horovod", which he wrote in 1942.These laws are written with the following opinion:

1.No robot can harm a person or prevent damage through inaction.

2.Without breaking the first law, the robot must obey all human commands.

3.If it does not contradict the first and Second Laws, the robot must ensure its own safety.

In the same Urin, we found it permissible to delve into the history of robotics.In 1942, the science fiction writer Isaac Asimov invented three laws of robotics. In 1948, Norbert Wiener developed the principles of cybernetics, which formed the basis of experimental robotics. Fully autonomous robots appeared only in the second half of the XX century. The first digitally controlled programmable robot was Unimate. It is designed to take and assemble the robot's hot iron parts from the smelting machine. Today, commercial and industrial robots are widespread. These robots do the job cheaper, more compact, and more efficiently than humans. Some of the jobs of robots used in this area are dirty, dangerous and boring for humans. Robots are widely used for assembly, assembly, delivery, land and space exploration, medical surgery, equipment, laboratory research and safety.

While there is debate about what exactly machines can be called robots, it is argued that a conventional robot must have the following qualities:

- Not natural, that is, made by a conscious being.

-Can observe the environment (does not have to observe through sight; another species can also have intuition).

-Can interact with the environment in an interactive way.

- Somehow smart, that is, able to make (independent or pre-programmed) decisions.

- Can program.

- Can move with rotation or parallel displacement axes.

- Able to perform agile manipulations.

In the melody, information is provided on the button of the main classes of robots .Today there are many types of robots that are used in different ways in different environments, although the purpose of Use and appearance are different, when it comes to structure, they all have three common areas:

1.Each robot consists of a mechanical base — a device, a frame. The type of frame varies depending on the purpose. For example, crawler tractors can be used if the robot moves on clay and sand. Mechanically, the inventor's solution to a separate problem depends on the environment of the place where the robot moves. The Shape of the robot is directly related to its function.

2.Each robot consists of electrical components. These parts fully control robotic systems. For example, if we take a robot walking along chains, it will take strength to move these chains. This power comes as electricity, passes through the wires and is stored in the battery .

Gas-powered machines also require electricity for the gas utilization process. Therefore, cars such as gasoline cars have a battery. The electrical system is used to move the robot (engine), measure (electrical signals to determine the amount of heat, sound, location and energy) and for general use (the robot must send some energy to its motors and sensors). general basic operations).

All robots require some computer code. The same algorithm shows how the robot works. The person who writes the code writes how and when the robot decides and acts within the program. A robot moving along the same chain, thanks to its mechanical design and construction, makes mud perfect and does not move without a computer program, even if it receives the required amount of energy from its battery through wires; because the program tells the robot when and where to move. The program creates the basic value of the robot. If the mechanical and electrical parts of the robot are perfectly finished, but the written application is bad, the robot works in two ways, even if it does, it moves and works irregularly. There are three main types of algorithms: remote control, artificial intelligence, and hybrid. Remotely controlled robots have a number of commands. It executes commands only after receiving a signal from the remote control. In general, a person controls a robot located at a distance through the same device. Robots using artificial intelligence make their own decisions depending on the environment. In the robotic system, various reactions to environmental factors and objects are recorded. Artificial intelligence takes into account those reactions and affects environmental factors. Basically, artificial intelligence should be similar or similar to human thinking. And the hybrid is a combination of remote control and artificial intelligence.

In the summary urn, it should be said that we can also call a robot a machine that partially or fully performs the function of a person in conditions of danger to human life (strong radiation, high temperatures, etc.), in objects that are difficult for a person to navigate (under water, in space).

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