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ROBOTS ARE OUR FUTURE

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Анотація

В статті подана загальна інформація про роботів, їхня характеристика, класифікації, а також досліджено основні переваги та недоліки впливу роботів на суспільство в майбутньому. Окремим підпунктом досліджено категорію роботів – нанороботи в медицині, їхню сферу застосування, основні переваги та недоліки.

Ключові слова: *робот, майбутнє, нанотехнології,наноелектромеханічний пристрій.*

Abstract

The article contains general information about robots, their characteristics, classifications. There are investigated the main advantages and disadvantages of the influention of robots on society in the future. Another sub category of robots called nanorobots in medicine, their scope, the main advantages and disadvantages has been analyzed in particular.

Keywords: *robot, future, nanotecnology, nano electromechanical device.*

Introduction

Though we live in uncertain times, we must not forget that the most important thing in our life is the legacy we will leave behind for future generations. It is not for our sake, but for theirs, that we must preserve and protect the basic values we hold dear.

The purpose of the work is to determine the influence of robots on the future of society.

Research results

Robots are believed to be our future. Robots with human level understanding can be intelligent, caring, thoughtful and efficient. Robot school teachers will have access to the latest teaching trends and be able to understand the learning needs of each child. Hotels and restaurants will have friendly, polite and helpful robot staff. Retail shops and sales offices will be manned by robots. Doctors, surgeons and nurses will be replaced with robots having the latest medical knowledge. Banks and financial institutions will be manned by robots. There are also robotic police which will act effectively to prevent crime and so on.

So, what is the robot? A robot is a mechanical or virtual intelligent agent that can perform tasks automatically or with guidance. Practically it's an electromechanical machine that is guided by computer and electronic programming.

Why do we need robots? To my mind, robots make life easier. They are designed to complete harder tasks and are quite often used in dangerous missions to protect human life. Without Robots society would not be able to function efficiently. Robots are used to complete tasks that human kind cannot. For example: space explorations, bomb detection, medical surgery. Robots are used in industry as they are needed to complete tasks that humans cannot. For example: Underground mining, car manufacturing. Robots are less expensive in the long term as companies need less humans and companies do not have to pay robots salary/wages.

Robots are uses in all areas of our life: at home, at work, in manufacturing, medicine, studying and so on. So, there are such types of robots by application:

Industrial robots - industrial robots are robots used in an industrial manufacturing environment. Usually these are articulated arms specifically developed for such applications as welding, material handling, painting and others.

Domestic or household robots - robots used at home. This type of robots includes many quite different devices such as robotic vacuum cleaners, robotic pool cleaners, sweepers, gutter cleaners and other robots that can do different chores.

Medical robots - robots used in medicine and medical institutions. First and foremost - surgery robots. Also, some automated guided vehicles and maybe lifting aides.

Service robots - robots that don't fall into other types by usage. These could be different data gathering robots, robots made to show off technologies, robots used for research and so on.

Military robots - robots used in military. This type of robots includes bomb disposal robots, different transportation robots, reconnaissance drones. Often robots initially created for military purposes can be used in law enforcement, search and rescue and other related fields.

Entertainment robots - these are robots used for entertainment. This is a very broad category. It starts with toy robots such as robosapien or the running alarm clock and ends with real heavyweights such as articulated robot arms used as motion simulators.

Space robots – i'd like to single out robots used in space as a separate type. This type would include robots used on the International Space Station, Canadarm that was used in Shuttles, as well as Mars rovers and other robots used in space.

Hobby and competition robots - robots that you create. Line followers, sumo-bots, robots made just for fun and robots made for competition.

But we consider Nan robots (especially nan robots in Medicine) to be the most promising sphere because there are a century of nanotechnology and nan robots give the opportunity to observe, diagnose and even treat diseases with less probability of mistakes and negative consequences.

Actually, nan robots are robots less than molecule (less than 100 nm). It has a function of the movement, processing and transmission of information.

There are such sphere of using nan robots:
- Early diagnosis of cancer and targeted delivery of drugs to cancer cells
- Biomedical instrumentation
- Surgery
- Pharmacokinetics
- Monitoring diabetics
- Production by molecular assembling nanobots devices of individual molecules on its drawings
- Military applications as a means of surveillance and espionage, as well as weapons. The potential use of nanorobots as the weapon demonstrated in some works of fiction (Terminator 2: Judgment Day, Terminator: Genesis, The Day the Earth Stood (film, 2008), The Rise of Cobra).
- Space research and development

How nanorobots will work?

The robot in this illustration swims through arteries and veins using a pair of tail appendages.

Nanorobots capable to fight with such dangerous incurable diseases, as:
- Atherosclerosis
- Cancer;
- With blood diseases;
- Infections;
- With a stone kidney disease;
- and even repair DNA.

A major advantage of nanorobots is thought to be their durability. In theory, they can remain operational for years, decades, or centuries. Nanorobots also have significant drawbacks such as their virulence and immune response to them.

Nowadays, there are nanoelectromechanical device - a prototype nanorobots, which carry great promise. Their use is directed to the treatment of various diseases.

In the future, nanorobots could revolutionize medicine.

But, today, nanorobots in medicine, there are so far only in theory, but nanotechnology is an area of science that is developing very rapidly from year to year.

The following advantages of robots should be mentioned:
1) Going to far away planets
2) Spying on people in ways people can't move and from views humans can't reach
3) Going far down into the unknown waters where humans would be crushed
4) Giving us information that humans can't get
5) Working at places 24/7 without any salary and food. Plus they don't get bored
6) They can perform tasks faster than humans and much more consistently and accurately
7) They can capture moments just too fast for the human eye to get, for example the Atlas detector in the LHC project can capture ~ 600000 frames per second while we can see at about 60
8) Most of them are automatic so they can go around by themselves without any human interference
9) They can entertain us and help us in certain tasks

One considers the following disadvantages of robots:

1)People can lose jobs in factories. If whole industrial plants were replaced by robotics, that means massive firing and more people left without their jobs. This means that the industrial branch grows from day to day, but more people loses their jobs**.**

2) It needs a supply of power

3) It needs maintenance to keep it running

4) It costs money to make or buy a robot

Conclusions

I think that in the next 20 years there will be more advanced and cheaper technology in this field that would lead to the formation of market robots of different functionality and complexity. This means that robots will live and work among us, entertaining us and helping us in our daily physical and intellectual work.

Robots won't just change our lives in the future, they will expand them. Not just for fun, but for necessity.

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