Kpi-best

Національний Технічний Університет України  
«Київський Політехнічний Інститут»

Факультет інформатики та обчислювальної техніки

Кафедра АСОІУ

**РЕФЕРАТ**

з дисципліни “Англійська мова професійного спрямування”

(ІІІ курс)

на тему: **“Using of robots in modern world”**

Виконав:

Студент групи ІС-33

Коваленко А.О.

.

Викладач:

Бойко І. В.

Київ 2016

A **robot** is a mechanical or virtual artificial [agent](https://en.wiktionary.org/wiki/agent), usually an [electro-mechanical machine](https://en.wikipedia.org/wiki/Electromechanics) that is guided by a [computer program](https://en.wikipedia.org/wiki/Computer_program) or[electronic circuitry](https://en.wikipedia.org/wiki/Electronic_circuit). Robots can be [autonomous](https://en.wikipedia.org/wiki/Autonomous_robot) or semi-autonomous and range from humanoids such as [Honda](https://en.wikipedia.org/wiki/Honda)'s *Advanced Step in Innovative Mobility* ([ASIMO](https://en.wikipedia.org/wiki/ASIMO)) and [TOSY](https://en.wikipedia.org/wiki/TOSY)'s *TOSY Ping Pong Playing Robot* ([TOPIO](https://en.wikipedia.org/wiki/TOPIO)) to [industrial robots](https://en.wikipedia.org/wiki/Industrial_robot), medical operating robots, patent assist robots, dog therapy robots, collectively programmed [*swarm* robots](https://en.wikipedia.org/wiki/Swarm_robotics), UAV drones such as [General Atomics MQ-1 Predator](https://en.wikipedia.org/wiki/General_Atomics_MQ-1_Predator), and even microscopic [nano robots](https://en.wikipedia.org/wiki/Nanorobotics). By mimicking a lifelike appearance or automating movements, a robot may convey a sense of intelligence or [thought](https://en.wikipedia.org/wiki/Agency_(philosophy)) of its own.

**The Three Laws of Robotics** are a set of rules devised by the [science fiction](https://en.wikipedia.org/wiki/Science_fiction) author [Isaac Asimov](https://en.wikipedia.org/wiki/Isaac_Asimov).

1 A **robot** may not injure a human being or, through inaction, allow a human being to come to harm.

2 A **robot** must obey orders given it by human beings except where such orders would conflict with the First**Law**.

3 A **robot** must protect its own existence as long as such protection does not conflict with the First or Second **Law**.

10 things we couldn’t do without robots

Since the advent of robots, work has been shared between man and machine. But, as robots become more technologically advanced and autonomous, they learn how to do jobs faster and better than humans. Their precision, intelligence and endless energy levels make them the perfect employees for a wide variety of jobs that humans just can’t afford to do. Here are 10 things we couldn’t do without robots:

1. [**Military Services**](http://military.discovery.com/technology/robots/robots.html): Military robots are some of the most high-tech and important robots used today. These state-of-the-art machines save lives by performing extremely dangerous tasks without endangering humans. Some common robots used by the military are Explosive Ordinance Disposal (EOD) robots, which are capable of examining suspicious packages and surrounding areas to find and even deactivate improvised explosive devices (IEDs) and mines. They can even deliver unexploded ordinance for examination and proper detonation. The military also uses unmanned aerial vehicles for reconnaissance missions, to scope out enemy movements, find hidden explosives and give the Air Force a wide-angle surveillance of their battlespace.
2. [**Car Production**](http://www.helium.com/items/1409985-robots-in-the-automobile-industry-robots-making-cars-robots-stealing-jobs): Robots are used in the automobile industry to assist in building cars. These high-powered machines have mechanical arms with tools, wheels and sensors that make them ideal for assembly line jobs. Not only do robots save more money in manufacturing costs, but they also perform tough tasks at a pace no human could possibly do.
3. [**Space Exploration**](http://prime.jsc.nasa.gov/ROV/types.html): One of the most amazing areas of robotics is the use of robots in space. These state-of-the-art machines give astronauts the chance to explore space in the most mind-boggling ways. The most commonly used space robots are the Remotely Operated Vehicle (ROV) and the Remote Manipulator System (RMS), which are both used in a variety of space missions. ROVs can be unmanned spacecraft that orbit freely or land when it makes contact with an outer space surface and explore the terrain. Both capture remarkable data and visual footage that would never be humanly possible without the assistance of robots. RMS mechanical arms also help astronauts perform very important and difficult tasks during space missions.
4. [**Remote and Minimally-Invasive Surgery**](http://www.intuitivesurgical.com/products/): Robot-assisted surgery has truly changed the face of medicine by expanding surgeons’ capabilities in ways no human could. Surgical robots are directed by human surgeons who use a computer console to move instruments attached to robot arms. Today’s surgical robots are so advanced that it’s possible for surgeons to perform remote surgery without physically being in the operating room or even in the same country! Robot-assisted surgery has improved the limitations of minimally invasive surgery and has many advantages over traditional open surgery, including greater precision, smaller incisions, less pain and decreased blood loss.
5. [**Underwater Exploration**](http://www.sciencedaily.com/releases/2010/11/101123121105.htm): Underwater robots have radically changed the way we see the world from the ocean floor. Underwater robots can dive longer and deeper than any human, and they provide an up-close look at marine life.
6. [**Duct Cleaning**](http://www.nus.edu.sg/research/rg76.php): Duct cleaning is done best by a robot that can actually fit into these hazardous and tight spaces. Robots provide a more effective and efficient cleaning than manual brushes. Duct cleaning robots are used in hospitals and government buildings that may have hazardous or contaminated environments, as well as embassies and prisons for a shorter and more secure cleaning.
7. [**Fight Crime**](http://homelandsecuritynewswire.com/police-robot-seeks-out-bad-guys): Police robots help fight crime without risking the lives of police officers. Law enforcement officers use an array of high-tech and remote-controlled robots that are equipped with front and back cameras, infrared lighting and a speaker to search for criminals and find their location without endangering a police officer.
8. [**Investigating Hazardous Environments**](http://www.mndaily.com/2007/06/06/small-robot-scouts-hazardous-situations): Robots have become increasingly important for investigating and researching hazardous and dangerous environments. These robots are capable of entering an active volcano to collect data or a burning building to search for victims. These unmanned robots also save lives because they prevent people from having to enter the hazardous environment before they knowing what to expect.

Example Chernobyl. Robots were used to clean NPP roof from radioactive trash.

10 jobs robots already do better than you

**1. Stockroom worker**

Amazon’s new “robot army”—a fleet of short, bright orange robots on wheels—is now working in some of its warehouses to move stocked shelves to workers, who then scan them. This robot army makes Amazon’s operations more efficient: Workers [are now expected to be able to scan at least 300 items per hour](http://www.marketwatch.com/story/amazon-robots-prepare-for-christmas-2014-11-19) vs. 100 when the robot army wasn’t in use and will now avoid up to 20 miles of walking each day.

**2. Bartender**

This robot knows over 300 coctails, and can make them in seconds

**3. Soldier**

Robots could replace one-fourth of all U.S. combat soldiers by 2030, according to statements made in January by U.S. Army Gen. Robert Cone. It’s an effort by the U.S. Army to become “a smaller, more lethal, deployable and agile force.” The robots may be able to do everything from dismantling land mines to engaging in front-line combat.

**4. Pharmacist**

Computers receive the prescriptions and robots package and dispense them. During its first phase-in, the university says, there were no errors in the 350,000 doses the robot filled. What’s more, robots may be able to do a better job than humans at making sure the prescription a human is picking up won’t interact with other medications he or she is taking

**5. Farmer**

Much of farming involves routine tasks that robots can more efficiently do, including surveying the land, driving the tractors, and cutting, pruning and harvesting the crops, says IBISWorld industry analyst Jeremy Edwards. Indeed, there are already wine-bots, which prune vines in vineyards, and lettuce-bots, which pull up the weeds near the base of the plant, among many other farming robots.

**6. Bomb squad**

There are more than 450 bomb squads in America, which respond to thousands of bomb-related incidents each year, according to federal statistics. Already, some of these bomb squads use robots, which often can better dispose of the bombs, while minimizing the risk to human lives. The robots have other law enforcement applications as well—like infiltrating hostage situations—says Colin Angle, iRobot CEO and co-Founder of iRobot, maker of the Roomba robot vacuum.

**7. Journalist**

Fellow journalists, don’t hate the messenger. Robots will likely take some journalists’ jobs in the near future. Brynjolfsoon says that business journalists—especially those who focus on numbers-heavy stories like market reports—and sports journalists who do a lot of numbers analysis—may be most at risk. Indeed, a program by Narrative Science already writes short sports recaps (The Big Ten Network is a client). Brynjolfsson points out, however, that robots aren’t that great at being creative—so fiction writers and long-form creative journalists can rest easy.

**8. Paralegals and doc-review-focused attorneys**

Clients pay millions for attorneys and paralegals to do some of the work that robots can simply do better—namely the dreaded “doc review,” in which people search hundreds of documents looking for mentions of certain items or concepts. Silicon Valley-based Blackstone Discovery offers that service—it can search both words and concepts—without the need for human hours. Robots, unlike humans, don’t tire of rote tasks such as this, and thus are often better equipped for it, experts say.

1. **Housekeeper**

The vacuuming robot has been around for a while, but it’s getting better than ever: The Roomba 880, a newer version of the floor-cleaning robot, has earned stellar reviews, with some testers saying it does a better job than any upright vacuum, especially on pet hair.

**10. Tellers and clerks**

The bank branch is expensive to maintain, thanks in part to the cost of bank tellers’ labor—a cost that robots can, and in some cases already do, help eliminate. At least one bank is trying to drastically reduce that cost: At more than a dozen Coastal Federal Credit Union branches, consumers won’t find a single bank teller when they walk into a branch; instead, they’ll find “personal teller machines” that do much of what the teller could. The move resulted in a 40% reduction in teller staff, a spokesperson for the bank said earlier this year. Other banks are experimenting with similar options, says Better ATM Services CEO Todd Nuttall, whose company enables ATMs to dispense prepaid gift cards. The store and mailroom clerk may also find their employment opportunities similarly downsized.

Summary

A science fiction writers’s dream comes true. Robots are already in use all around the world, in different ways. Main purpose, why people develop robots – is people’s safety and ability to reach unreachable for human places, as far space, deep ocean etc. It’s make people’s life easier, and they can do a lot of work much faster, more careful, and robot doesn’t have days off. It’s very comfortable for large companies, such as Honda, BMW, NASA.

## But it has a bad side, cause a lot of people don’t have work, which robot can do better, but anyway it’s much better for companies, cause main target for them is to earn more money, and robots are cheaper.

Summary translation

Мрія письменників-фантастів здійснилася. Роботи уже наповну використовуються по всьому світу, в різних сферах нашого життя. Головна причина, чому люди розробляють роботів – безпека людей та їх здатність дістатися до місць, які недоступні для людини, наприклад, далекий космос та дно океана. Вони роблять життя людей легшим, та вони можуть робити великі обсяги роботи набагато швидше, більш акуратно, та роботи не мають вихідних. Це дуже зручно для великих компаній, таких як Honda, BMW, NASA.

Але це має і негативну сторону, тому що багато людей залишаються без роботи, яку робот може робити краще, але це краще для компаній, головна мета яких – більший прибуток, оскільки роботи дуже швидко можуть окупитися

Conclusion

## Are robots going to take my job? Yes. I think eventually, robots will take over your job. If you work in the fast food industry, I think at this point the whole restaurant could just be run by robots. I’m not trying to insult fast food workers – I’m just trying to tell the truth. A robot can make some chicken nuggets and a robot can take your order. Robots can clean up and they don’t make many mistakes.

## When will the robots finish their takeover of society?Who knows. Some changes are slow. The industrial revolution didn’t happen overnight. The conversion from horse transportation to automobiles took some time also. But what about the information revolution? That seems like it was much faster. If you think back to 1995, how many people were using the Internet in some way? Not many. In just 20 years, the Internet is everywhere. So, these changes can sometimes be fast.

Each man has different thoughts about that, but I think, that it’s good change, until we can control robot AI.

**Literature**

1. 10 Things We Couldn’t Do Without Robots <http://www.webdesignschoolsguide.com/library/10-things-we-couldnt-do-without-robots.html>
2. 10 jobs robots already do better than you <http://www.marketwatch.com/story/9-jobs-robots-already-do-better-than-you.html>
3. <https://en.wikipedia.org/wiki/Robot>