

# Robots: how we can apply them in our life

[Technology](#), [Information Technology](#)



This paper researches all the different ways robots are used in the workplace, in education and many other ways. It looks at how robots are used in space exploration. It researches how robots are used in industries such as welding and in factories. It also examines the Washington post's article about how robots are even being able to take some humans jobs! It also looks at what Amy Spurling found that researchers are trying to make robots be able to do at the University of Sydney. It will also look at how robots are used in the medical field. Robotics is defined as anything that does a job autonomously (without human interaction) according to meridian education corporation and this is what this paper will be using as the basis for research and the definition of robots. This is everything that that this paper will be examining and going through thoroughly.

Robots can be very useful in the workplace. With modern technology they are having even more abilities. Professor Salah Sukkarieh (Spurling, 2015) of the Sydney University's robotics program has built robots that help in agriculture. Her goal was to help get young people into farming. For example, they built " Unmanned Ariel Vehicles" (Spurling, 2015) which fly above and detect weeds. It then sprays the weeds, eliminating the hassle of a farmer having to find the weeds himself on thousands of acres of land. Another robot, " ladybird" targets smaller areas of land and sprays them. " Shrimp" can go through orchards and collect data on which areas are fertilized and which are not. Another robot " Mantis" can hurd caddle and collect data on them! They also have built other robots they can scale rocks on other planets and do research on other planets! The University also has built underwater robots that swim on their own and gather data for

scientists. The University of Sydney has won many awards for its designs and research. Imagine all these coming from Australia! The professors at Sydney University also said driverless cars are being tested and made. So soon robots will be able to drive cars for us! He also pointed out that there are pilotless drones being made as another example of how drones are being used in the workplace. Also, the professor said they use vacuum cleaning robots to clean up the college! Professor Salah Sukkarieh said that robots are becoming much more physically able and smarter than us and may one day replace many of our jobs! These are just a few examples of how robots are being used in the workplace and everywhere. This is what Amy Spurling found at the University of Sydney (2015). But there are many other ways robots are used in the workplace and in the world. So we see from this that robots have many useful applications and are getting more abilities. Not only are robots used in the ways listed but they are used to help in industry jobs and for long time actually.

According to Film Media Group (1998) robots are used in the industry jobs as well. There are welding robots that can move around like a human arm and weld things together. There are also robots that can carry products and put them in a specified way. These types of robots can have tooling that allows companies to adjust the robots to their needs. They can add spraypainters, welders, among other things. They can also program the robots to do specific tasks. Gantry robots cannot be adapted however and are mostly used for building metal together. They say companies are switching to using robots because they reduce labor costs, are more accurate than people, require less work by the people and can do dangerous tasks. One such type

of robots can carry chemicals for the people. Robots also lower energy costs, lower maintenance costs. You can also control how much a robot will output and what it does. Robots are even being used to build cars! When these car-making robots were tested they were accurate of 0.5mm or 20 thousandths of an inch (Film media group 1998)! Bakeries now use robots to package up their products. Some warehouses even have very few humans and use robots to mostly package and sort items. In some McDonald's you can even order food using a robot (computer). Industrial companies usually decide to use robots when tasks that it requires heavy lifting, is dangerous or requires a high degree of accuracy. Modern technology has allowed the use of robots to become even for accessible. For example today they are more easy to use, and they are being able to allow more simpler tasks to be done.

However, companies say robots will not replace people completely. They say they will always need people to program the robots. They need people to watch the robots because they can malfunction at times. Companies also need people to fix those robots when they break down. So we see that as more tasks are being automated and being done by a robot, there will still always be a need for human workers.

Not only are robots are used in the industry, but they are used in education. For example there is a certain type of robot called an iQA system or instant questioning answering system where users can enter a question and get an answer back instantly (Tzu-Hua Wang, 2013). Students can use to look up needed information. Teachers as well can use to help answer student's questions and help add to their lessons. It is useful because it can be accessed on any network anywhere. It is being used in England and in China.

Another way robots are used in education are the robotics programs such as First Lego League and First Tech challenge (Zalaznick, Matt 2014). In these programs grade school and high school age kids learn programming and engineering through building robots. These robots are then used on obstacle courses and challenges by kids. So we see that though robots are not doing the teaching, they are used a teaching tool for teaching kids programming and engineering (Zalaznick, Matt, 2014). From my experience when I was in middle and high school, I was part of the First Tech Challenge robotics program and learned so much from it. It's what got me interested in computers. So this is another way robots are used.

Another way robots are used in education is to help with communication and tutoring. There are robots that can sit with a child in school or at home. Both robot and child can sit in front of a computer screen that has the lesson it on it. The teacher who is in a remote location can then see the child through the robots eyes, and talk to the child. The child interacts with the robots just as if he were interacting with a human teacher. The teacher has control of the robot so he or she can answer students question and help keep the student on track (J. K Lee et all, 2009). It can also help kids with anxiety perform better because they are interacting with a robot rather than a human. So as we see, robot have various uses in education. But robots are used in other ways besides education. They are also used in the medical field.

Robots can very helpful in the medical workplace. It all started with da Vinci's Surgical System, which the FDA approved in 2000! (Michelle McNickie, 2012). This robotic system helps doctors with surgeries. According

to information week (2012), it has performed over 20, 00 surgeries so far! Another example, the Vasteras Giraff is a robot that contains a screen that connects to sykpe. This allows elderly people to be able to connect with their caregivers and with the outside world easily. Another robot, the Aethon TUG is a robot that can make delivers, go on elevators, transport supplies and deliver medicine and food to patients. It does this all on it's own. According to information week it can replace 3 full time employees a day (2012). This allows for increased productivity. I even saw a robot like this at Kootenai Medical center.

Another robot used in the medical field is developed by iRobot called RP-VITA (or Remote Presence Virtual + Independent Telemedicine Assistant). This robot allows doctors to take care of their patients while they are away. It detects obstacles, allows users to interact with it using an iPad. The patient can see the doctor and talk to them. The doctor can also see test results, diagnostic devices and the like. Really an amazing robot! (Michelle McNickie, 2012)

Another robot, Bestic, has a arm with a spoon on it. This robot can be controlled by the patient to help them eat and for portion control. It can easily fit on a table. Another robot called “ Nursing Assistant” can be controlled by a nurse for movement. This allows more precise movements during surgeries. Another robot, Cosmobot, is part of a program called “ robotic therapy” to help developmentally disabled children. It also collects data on the child's success in therapy. It can help children learn motor and social skills. Another amazing bot is called a microbot. These tiny bots have

tons of uses. It can be used in eye surgeries, arty scraping and medical diagnosis. People swallow these robots and doctors use the camera on them to look inside of people. Pretty amazing little bots! (Michelle McNickie, 2012)

Another robot used in the medical field is the Anybot. It can move on it's own. Doctors control these bots go mostly into nursing homes. It can sense the person in the room the doctor is talking to. The Swisslog RoboCouier can deliver specimens, medications and supplies to a destination. It can do this using a map system. It warns people of it's presence, waits for traffic and identifies the most efficient route. It uses lasers for accuracy. Toyota is developing robots that can be used in physical therapy. For example the Balance training assistant helps people learn to balance. The walk training assistant and the Independent Walk Assist both help people re-learn to walk. They can also track a patient's progress. (Michelle McNickie, 2012) These are the main robots used in the medical field.

Robots are used in the sciences and pharmaceutical workplace as well. According to Brett Brumson, editor for the Robotics Industries Association robots are doing the dangerous jobs in the pharmaceutical world. For example hospitals are using robots to mix cancer drugs that use radiation (Brumson, 2011). Robots are also used to make and sort medications in mail order pharmacies that handle large volumes. This reduces cost and provides more accuracy (Brumson, 2011). Robots are also used to assemble and package medical equipment in the pharmaceutical companies. This also reduces cost, as less people are needed. Robots are also used in surgery to deliver specific levels of radiation to a specific spot. Robots are also used in

disease diagnosis as they can show 40, 000 dots of DNA (Brumson, 2011). A robot named vision can also identify types of bacteria and where they came from! Also, because the clinical laboratory position is declining, robots are now being made to test for other diseases. Robots are also used to help prevent fraud in the pharmaceutical world. For example, robots place barcodes on prescriptions, load them into their memory and set a specific place they are to go to. If the drug was scanned where it wasn't supposed to be sent, then the robot detects that and the company is alerted.

Robots are being used everywhere- even in the army! There are efforts being made to eliminate the use of men in certain areas of the army. The Army's Future Combat Systems project is in charge of these efforts (Robert Sparrow, 2007). One example is cruise missiles and torpedoes. These are missiles that can be programmed to hit a certain area without the use of a pilot. They are launched then fly on their own. We also have uninhabited Ariel vehicles, which are designed to spy on countries and collect information (Robert Sparrow, 2007). There are also Uninhabited Combat Ariel vehicles, which can deliver supplies to troops on their own or drop bombs on unsuspecting enemies. There are also uninhabited underwater vehicles, which are used to seek out enemy submarines and mines and map them out. There are also more aggressive UUVs called MANTA that are designed to seek out and destroy enemy submarines (Robert Sparrow, 2007).

Also, the Air Force has a program called the Low cost autonomous attack system (LOCCAS). This system can detect enemy missiles, Ariel weapons and targets of military interest. It then chooses the proper missile and warheads

to launch at the incoming target (Robert Sparrow, 2007). There is debate whether these types of systems are acceptable, because what if a robot makes a wrong choice what they destroy? Who is responsible? A robot is not a person, so it can be tried? These types of questions are considered when the army implements new autonomous tech as well as the benefits of not having to send as many humans into war (Robert Sparrow, 2007).

So now the final question remains- will robots take over human jobs?

According to an article on the Washington post (Samuelson, R, 2015), things do seem to be becoming more autonomous (Samuelson, R, 2015). It listed examples like Chili's restaurants adding tablets where customers can place their orders and play games and how a hotel is using robot bellhops. It gave another example of Lowe's using robots to direct people to where they need to go (Samuelson, R, 2015). There are even self-driving cars and trucks being made! However they say that is what the economy naturally goes through. New technology is always being created and replacing the old. However, they say it does not come at much of a cost to jobs as people think. This is because robots can never truly replace humans the article says (Samuelson, R 2015). Robots are just programmed machines, while humans have the ability to problem solve and much more. So no matter what companies will always need people. This does not negate how useful and valuable robots are.

In this paper we looked how robots are being used in the workplace and the world. We saw how they can be used to build things in the industrial world. We saw one college is building robots and using them in the farming world.

We also explored how they are used to help teachers reach long distance students. This paper also explored how robots are used to assist doctors in the medical field. It also showed how robots are used in the pharmaceutical world to prevent accidents in the pharmaceutical and scientific world. Lastly we looked how robots are used in defense in the army. Then this paper concluded that robots will never truly replace people. It also concluded that robots have many uses. This goes to show how much of an impact robots can have on our world.