

Robots helping humans



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Engineers and scientists today envision a world, where the majority of dangerous and labor intensive tasks will be handled by robots. Presently, most of the objectives in the development of robots have already been realized despite the fact that more needs to be done (“The Most Fresh Robots News”). Previously, most robots were developed to fulfill only one or two tasks at a time that are rescuing people, working in mines or helping people in production industries. As the field of artificial intelligence goes to pinnacles of its development, so do the scientists’ ideas and visions. Today, robots are of a substantial help to the mankind in navigation, performing industry work, building homes, working in mines and the military operations.

Robots in Navigation

At the University of Nevada, scientists are experimenting with robots that can assist blind people in navigation. Robots need sophisticated sensors to keep track of their current location. Today, the same technologies are being used to help blind people. Soon, they will not only assist people in navigating their way, but they will also help a person in seeing the social organization of a certain place.

For years, robots have performed dirty and dangerous jobs in conditions that humans may find hazardous. Robots employed in the underground or underwater navigation remain quite common. With their ability of laying optical fiber on the ocean bed, robots have always played an essential part in navigation. Same is the case with mining, where robots have been of a substantial help to humans in exploring underground ways. These are some

of the most dangerous jobs human beings could have never accomplished if there were no robots.

Robots in Industry

Robots have always played a vital role in performing industrial duties. These devices are generally computer controlled and can act independently, once they have been properly programmed by specialists (Heaven). One of the most common types of robots in the industry is ' Pick-and-Place' robots. These are programmed to perform specific tasks in specific environments and are classified as dummy robots. Nevertheless, they perform their tasks much faster than ordinary human workers. These industrial robots have taken over most of the boring and physically demanding jobs (Jobin), thus, providing humans with extra time to conduct an analytical work, in terms of which these robots are less effective. Such work distribution has created a very healthy and clean environment in industries.

Industrial robots have been in an active use for many years. Some of the common tasks industrial robots perform are as follow (Jobin):

Handling operations, where material handling is the most common task performed and constitutes about 29% of robot employment in this field.

Assembly, which is a process that involves joining of different parts together in order to produce a complete product. Approximately 10% of industrial robots are directly involved with the assembly.

Processing, whereas only 2% of all industrial robots are actually involved in the processing part.

Other than the industries, robots are used to perform work in underground mines, which are dusty and less lighted, making it difficult for human beings to reach them. This is as a result of their ability to burrow for longer hours into deep areas underground without suffocation and feeling of fatigue, which is common among human beings (“ The Most Fresh Robots News.”). Mines are dangerous areas that have a lot of health hazards, thus, using robots improves the efficiency of the production. Robotics experts should, therefore, work faster to develop enough robots that can efficiently help humans in performing most of the hazardous mining work, including helping in rescuing trapped miners. Without robots, it may take longer or even impossible to reach and rescue trapped miners from deep ends of the mining tunnels alive. For example, the first mining robot that was developed at Carnegie-Mellon University's Robotics Institute and named Groundhog used lasers to " see" in dark tunnels and managed to map the abandoned and dangerous mines in Pennsylvania, as well as successfully slog deep through the orange muck, with the help of laser rangefinders (“ The Most Fresh Robots News.”). These were areas that human beings could not reach. Other robots are designed to take photos and video as they relay the information to the control centers in real time and have mounted sensors with ability to detect the presence of dangerous gases in addition to mapping the environment in three dimensions. This helps the humans to avoid getting into contact with the hazardous gases that would otherwise suffocate the miners.

Robots helping people with illnesses

Robots have become considerably useful in the life of humans suffering from different illnesses and physical disabilities. In many occasions, robots have been used to support people suffering from severe memory loss, who are prone to psychiatric disturbances such as hallucinations and personality changes. In such conditions, robots are used to calm them or shift their mood. Children in pediatric wards are also engaged by robots to forget the pain. It also helps individuals with autism to improve their communication or understand facial expressions and learn to interact better (“ New Robots Help Humans Cope with Illness.”).

To help the elderly and disabled people to continue with their life normally, a French company, known as Robosoft, developed a robot named Kompai that helps them in navigating independently. The robot also talks and understands speech as the primary means of communication (Messina). To those, who cannot talk, a touch screen fitted with simple icons is used to input commands. Therefore, such people do not need assistance from other family members in carrying out their activities. Henry Evans is such an example, being a mute quadriplegic, after suffering stroke at the age of 40 years old. Despite his physical disability, Henry could use personal robots to gain independence and used the PR2 to personally shave his cheek (Cousins). Equally, he uses a head tracker to operate a range of experimental user interfaces that allow him to move the arms and head of the robot, in addition to invoking independent actions like navigating and reaching out to different locations in a room (Cousins). With a continued physiotherapy, such people are likely to get back to normalcy and perform their duties with ease.

Robots in Military Activities

In many parts of the world, robots have been used and are used to gather intelligent information in territories that humans are unlikely to reach without being noticed. They are as well used to set, detonate, or unarm bombs during wars in very risky and dangerous situations for armies.

Robots in our Apartments

It often seems absurd if people talk about robots in homes. In most cases, people always visualized robots as either huge industrial machines or rather sophisticated and expensive equipment in hi-tech labs. Looking around, it is noted that robots help humans even in their comfort zones, where robots pick and deliver items as commanded (Knight). In homes, robots help in house chores, such as dishwashing, where people simply fill the dishwashers with dirty dishes and walk away, leaving the robot to do the task. Although these devices and machines are not humanoid, they do belong to a certain type of robots. Rich Hooper, a consultant, who develops and designs computer controlled machines, once said, “ Robotics hhas gotten so loosely defined that it means almost anything with movable parts.” (Knight). This shows that people are indeed surrounded by moving machines at their disposal anytime and anywhere.

For many people, brushing teeth is no more than a common task. It is in fact so obvious that people always do it, while thinking of something else.

However, for people with learning disorders, brushing teeth can be a difficult task. Christian Peters, at Bielefeld University, designed an Artificially Intelligent (AI) system that helps people with learning disorders to brush

their teeth with ease, in addition to developing a system that helps people to wash their hands. Peters's AI system, also known as TEBRA, uses a video camera to monitor someone brushing teeth and checks each step at the associated time. The best thing about this robot is that it never dictates its user a pre-defined technique; it actually adapts to the user's routine and guides the user accordingly. These petty personal robots can radically change the society, empowering the handicapped to become independent and self-reliant.

Point of View on the Subject

Several people are also of a divergent opinion that robots are not that helpful to the humans as widely perceived. Many reason that the widespread use of robots lead into:

1. A lazy generation. This is because robots perform different tasks that could normally be conducted by humans like cooking, cleaning one's apartment or washing dishes. The increasing rates of employing robots make people rather lazy, since everything is done without them lifting a finger. Such laziness may lead to health conditions, such as physical weakness and muscle atrophy, which could otherwise be avoided.

2. High unemployment rate. Robots are intensively employed in manufacturing industries to perform tasks that humans used to fulfill. The manufacturing sector prefers robots as they cannot hurt themselves and management will not be obliged to pay off insurance (Knight). As a result, most manufacturing sector managers have opted for robots, hence, rendering thousands of workers unemployed. This increase in the

unemployment rate is likely to have an adverse effect on the economy at large, poverty levels and crime rates may rise due to unemployment.

3. Autonomy. Robots are technological innovations, and they tend to be autonomous as they conduct their programmed activities. They can commit mistakes because of hardware or software faults. If not corrected, these mistakes can lead to grave consequences and massive loss. In the future, when robots become more sophisticated and complex, it is possible that their artificial intelligence will develop too far. As a consequence, they will gain their own sense and will disobey their masters, trying to overthrow them.

Conclusion

Robots have taken over many tasks that were previously performed by humans. With the passage of time, more sophisticated machines will be developed that will make human lives much easier. It is inevitable that the future world will be run mostly by intelligent robots that will have analytical capabilities to conduct their functions properly. It is noted that robots that complement human capabilities at a work place or home are exceedingly valuable, especially when they assist in doing works that are hazardous to human beings. Presently, robots help humans in navigation, performing heavy industrial work, mining, military activities, assisting people with different illnesses and carrying out house chores.

In the advent of robots, simple tasks that could be easily performed by humans are now done by robots; as a consequence, people tend to become

lazier. Unemployment is another adverse effect of utilizing robots that leads to other serious vices in the society.