

The Importance of Robotics in our Life

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ABSTRACT: Robots are becoming practical in everyday human surroundings, according to this essay on the effects of robotic technology on human existence. The article explains that a robot consists of a brain, mechanical components, and sensors and walks readers through the procedures required in creating a robot, including defining the issue and goal, creating algorithms, and choosing useful functionalities. The essay underlines the potential job losses that robots may bring about in the workplace, but it also stresses how much human behavior and emotions are taken into account when designing robots, which considerably improves human life. The piece also covers how robots can communicate with other electronic equipment and connect to the internet, which could pose security risks. In order to exploit the potential advantages of robotic technology while lowering any hazards, the paper highlights the need for continued study and development in this area.

1. INTRODUCTION

The place of robotics in human life is currently a very extensive and diverse research and design subject. The literature is growing quickly, with hundreds of publications each year, and with activity by many different professional societies and ad-hoc meetings, mostly in the technical disciplines of mechanical and electrical engineering, computer and control science, and also artificial intelligence [1]. The working logic, design, and construction of robotics have changed according to the needs of the changing world. Robots

have been modified to address this new market, and their usage areas have expanded (e.g. health, industry, entertainment, research)[2]. For this reason, new sectors have emerged from robotics, sectors that serve people with a great future, giving service to the human being. According to analysis of International Robotics Federation data by DC Advisory, the global robotics market is predicted to reach \$275 billion by 2025. However, parallel to these developments, it has been observed that some security threats, such as personal data breaches [3], deficiencies in default configuration security, and unreliable connections, have increased [4].

With these flaws in robotics, people started to approach the changes in robotics more cautiously and skeptically. As a consequence, we are faced with an active role of robotics in human life [5]. Therefore, let's examine the details of the working logic of robotics, its construction, safety deficiencies, in which areas it is used more, in addition to its interaction with humans, and also what it promises for humans in the future.

2. LECTURE REVIEW

The article gives a broad overview of the growing significance of robotics in various spheres of human life, as well as how changes and growth in the field have been influenced by technological improvements [6]. In order to secure the security of smart gadgets, especially those that connect to the internet and communicate with other devices, the author highlights the necessity of taking security measures. The literature explores the advantages of deploying robots in a variety of disciplines[7], including industry and education, and emphasizes how they can improve people's lives by working in hazardous situations and jobs [8]. The author does, however, recognise the potential impact on human employment and emphasizes the significance of economic planning and safety precautions to counteract any unfavorable effects [9]. Overall, the paper presents a compelling case for the value of robotics in contemporary life and how their widespread use is expected to persist in the next years. A survey that shows most people acknowledge the value of robots in aiding human existence and believe it to be an increasingly important aspect of modern civilization backs up the author's claim.

3. METHODOLOGY

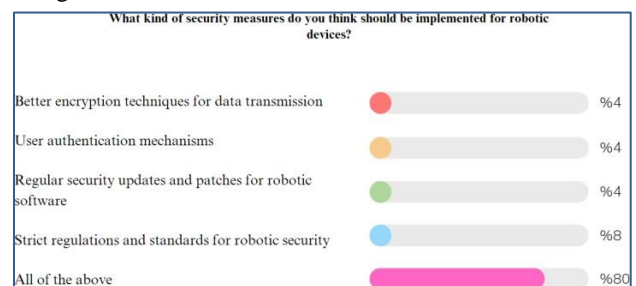
In recent years, technology has been developing very rapidly and robots are getting their share of it. For studying this rapid development of robots in more detail [10], the researchers scoured a number of educational resources and the Internet to collect data on the different characteristics and states of the robots [11]. First of all, the current working logic of robots, design of robots and their production processes were investigated in detail by researchers. Then, the types of robots in different fields such as industrial robots, medical robots, telepresence robots, entertainment robots, search and rescue robots, autonomous mobile robots, humanoid robots were investigated by the researchers [12]. Research has been conducted on human interactions with robots in different areas. The issues related to cyber security in robots were investigated in detail by researches [13].

Finally, research on future robot technology was conducted and to support the research, a survey was conducted by the researchers and the results were added.

4. DISCUSSION

The robotics field continues to develop rapidly with the advancement of technology. Today, we can see how involved robots are in human life [14]. It provides convenience and advantage to people in many fields such as health, education, industry. In the future, it is planned to greatly reduce the dependence of the robot on the human. But nowadays, humans are needed because the robot cannot meet all the features of the human [15] Since people have different ideas about this situation, it is difficult to come together on a common point. We also conducted a survey on this subject. When we look at the results of the survey, we can see that the majority of them approve of this situation and think that it will continue like this in the future.

Figure 1:



Another similar issue is the discussion in which field and how we can get the greatest efficiency from the conveniences provided by robots to humans. It is very difficult to categorize this, but we created a survey by adding a few basic areas as answers to our question. The results are very close to each other, but robotic technology in medicine is thought to be more effective than other fields. Many people think that robots have less impact on disaster response and search and rescue operations..



Figure 2:

With the advancement of robotics technology and the more and more inclusion of robots in our lives, security issues are also emerging. There are many security

measures taken for the safety of human life and the correct functioning of robots. Apart from these, we prepared a survey question by presenting a few more measures. Among the options such as new update, software development, person detection mechanisms, people think that they should all be used. Although a large majority say that all measures should be taken, the other most preferred option is the measure about the stret regulations.

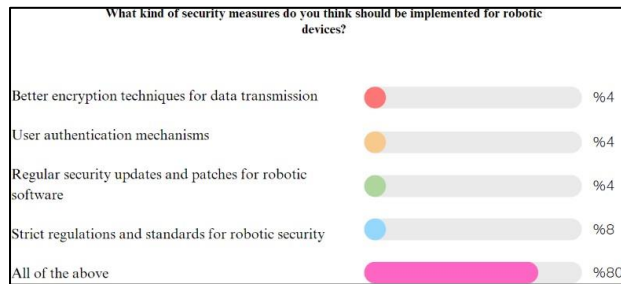


Figure 3:

5. CONCLUSION

This study draws attention to the importance of robotics in human life. Generally, during the years, robots' areas of usage, looks, the ways of work, materials and the other features of them changed, and they are separated into different branches. This separation has led to the emergence of different designs and production methods. With the advancement of technology, robot production has become more detailed and developed. Some security issues that have arisen with these developments, especially smart devices such as robotic devices connecting to the internet and communicating with other devices, must be properly secured. Both device manufacturers and users need to take measures to ensure the safety of smart devices such as robotic devices. It is not possible to categorize or gather robots that are in all areas of our daily lives under a single heading. Although robots have their own features and areas of use, they also share similar features with each other. The interaction between humans and robots is increasing day by day with the use of robots in many areas today. Robots, which are used in many fields today, make people's lives easier by working in dangerous jobs and in environments where people cannot be found. Although robots are preferred more than humans in order to protect human life and practicality in the mentioned fields such as industry and education, this superiority must be preserved. While robots are becoming more and more widespread in our daily lives, this prevalence is causing some people to lose their jobs, and at the same time, new job opportunities are emerging for other segments. Plans should be made by paying attention to the economic

power and safety of people. At this point, it is of great importance to calculate security vulnerabilities and potential problems beforehand. Robotics, on the other hand, is about to reach a 100 billion dollar market segment, and we can expect to see a significant number of increasingly sophisticated robots working with humans, incorporated into more areas of life.

In addition to all of these, according to the survey we conducted, most people thought that precautions should be taken against problems in robotics, that it facilitates human life, that robotics can replace people in business life, and that it will become indispensable. This survey showed us how important robotics is in our lives.

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