A Study on Robotics in Contemporary Ecosphere

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ABSTRACT

        This paper presents an ongoing study investigating the impact of robotics in the contemporary world, the robotics in education has gained an increased attention over the last decades. Using robots as a vehicle to interest pupils and young children in science and technology and in addition to improve their technical and social skills and in medical health as a service robot has become a widespread approach in various countries World Wide. Nowadays by transferring knowledge from large, diverse, modern ML models can solve specific downstream tasks either zero-shot or with small task-specific datasets to a high or large level of performance. At the same time as this capability of robotics has been enrolled in other fields such as computer vision, natural language processing or speech recognition, where the overview capabilities of the models are particularly demanding due to the difficulty collection of modern world robotic data.

Keywords-- ML-Machine Learning, Robotics, Robotics-Logistics, Drones

I.　　INTRODUCTION

        An overview of robotics in contemporary world, as well as impact of artificial intelligence and service robots on tourism and hospitality, sector has increased rapidly. Robots in medical field that help doctors perform their tasks so easier, safer, more accurately and faster. The article provides examples of service robots in medical field use radiation therapy, surgery, remote treatment, distribution of medicines, patient care and disinfection of premises in medical institutions. The field of activity in which use of future robot technologies is offered and demanded in order to ensure optimization of internal material flows is presented in.

        The authors consider robotics-Logistics and digital technological assessment of logistics efficiency and supply chain. The authors analyse hot spots and development of research on service robots. Based on analysis of timeline, authors divide evolution into three stages. However, explicit consideration of service robots is still rare, especially in scientific literature Drone Express allows packages to be delivered to location of customer's smartphone, not just to street address, it just means that customer will be able to order delivery of picnic accessories to park or seasonings for cooking in backyard. Licensed pilots Such robot can deliver to the customers, The use of drones will reduce labour and fuel costs to make e-commerce more profitable, obstacles such as weather, privacy and insurance remain stumbling block. It happens that people are not able to cope with such an increase in work, so replacement of people with robots is unpredictable Robots are increasingly supporting people both at work and in their personal lives. While use of industrial robots has long tradition in manufacturing industry, service robots are relatively new.

        Currently, use of service robots in public scenes is still in period of expansion. Areas that have been implemented include warehousing, logistics and distribution, hotel services, banks, government, e-commerce businesses, etc., but there are still many areas that are not involved. This paper presents an ongoing study investigating the impact of robotics in the modern world, the robotics in education has gained an increased attention over the last decades.

II.　　MATERIALS AND METHODS

Robotics in Medical Field

        Using robotics in medical field helps people's need more than the doctors can help. It also plays an important role in clinical settings and also helps in achieving major level of safe environment for patient and also handles the patient with care. There are more types of medical robots they are called such as

- Surgical robots
- Robots used for radio therapy
- Rehabilitation robots
- Laboratory robots
- Robotic prosthetics
- Hospital robots
- Social robots

Robotics in Logistics

Robotics plays an important role in logistics. Robotics also plays an important role in maintenance of equipment in freight industries.

- Aerial Drones
- Autonomous Mobile robots
- Automated Guided Vehicles
- Automated Storage and Retrieval System
- Stationary Piece Picking
- Custom Packaging
- Management of Warehouse and Inventory
- Inventory Transfer

The type of robotic system used in amazon warehouses is sparrow. Sparrow is a robotic system that can handle and select millions of individual projects using artificial intelligence and computer vision.

By moving the products to the packaging as per the customer requirements and it also saves the manpower and saves the time for the employees and led them to work on different tasks.

III. ROBOTICS IN AGRICULTURE

Advanced robots are used in agriculture. There are some applications in robotics in agriculture for which Robotnik robots are used.

In identifying the condition of the crops and spraying the pesticides for the crops and it also calculates the right amount of the pesticides to be used. The robots are also used in the sowing of the seeds and till the crops are cultivated.

The main function of the robots in the agriculture in the harvesting stage. There are more number of robots will emergence in the agriculture field includes weed control, cloud seeding, planting seeds, harvesting, environmental monitoring and soil analysis.

Whenever the robots are used in the agriculture it saves the time for the farmer's time and allows them to focus on other tasks and it also reduces the manpower used for the agriculture. The robot used in the agriculture such as:

- Aerial imaging robots
- Seeding and spraying robots
- Fruits and vegetable harvesting robots
- Autonomous mobile robots
- Weeding robots
- Robotic green houses

IV. ROBOTICS IN EDUCATION

The main purpose of this study is to investigate the impact of robotics in education on pupils' and young students' technical and social skills. Furthermore, the study intends to determine the effects of educational robotics activities on pupils' attitudes and interests towards science, technology and social aspects. In order to address the research questions this empirical study relies on a Quasi experimental two-group design including pre- and post-tests. Study participants are divided into experimental group (EG) and control group (CG).

The EG consists of pupils and young students up to the age of 19 who participate in robotics activities for the first time whereas the CG comprises young students who actually do not participate in those robotics activities. In this context we cooperate with schools that take part in annual national/regional junior robotics competitions (RCJ) and/or offer regular robotics courses/projects during the semester. If possible, students in the control and the experimental groups should be evenly distributed. In order to determine differences in terms of technical and social skills as well as science related attitudes and interests, results of pre- and post-tests will be compared between experimental and control group. Depending on national schedules this results in a time span of approximately eight months between both surveys.

Basically, the study is divided in two stages. The first stage covers a pilot study in order to validate the general study design and the applied instruments. The main focus of this pilot study is on different types of Austrian secondary schools and different Austrian regions. Robotics in education is well established in Austria.

V. CONCLUSION AND FUTURE WORK

This paper presented the different approaches for reducing or compensating the localisation error caused by the man power and it is rectified by the robotics science in the various fields like hospital and health. These, approach includes the replacing the man power and balancing with the machine power. The man mistakes can be reduced and can also be rectified using the machine power and also providing the machines with the artificial intelligent is one of the fine tasks assigned for the man kind. the future work of the paper is presenting it with the artificial intelligent and making the machine to make decision itself without the help of the human being.

The machine should consume it power automatically and should work only when it has to and save its energy and wait for the right replaced with the robots and making the work easier and accurate and providing the help needed for the human being and should nurture the mankind with the intelligent needed. The robotics should also take the action of teaching the human being about the unknown approaches of the hidden science and help it to unlock the knowledges that are required for the human being for it common good and improving its state in health and wealth.

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