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ECE 8th Sem
Robotics Assignment no. 2

Q1. Future Scope of Intelligent Robots.

The future of robotics & Artificial Intelligence will radically change the working landscape of many industries. In a recent survey, respondents were asked ~~to~~ about the impact of Intelligent robots on their workplaces. The answer was somewhat ambiguous. Some respondents said that the rise of intelligent robots would displace some types of work, while others predicted that these technologies would create jobs.

The future of intelligent robots depends on developing reliable data sources that can make robots more capable and intelligent. As the technology improves more robots will be used to perform tasks performed by humans; in fact, in some industries, the growth of robotics is expected to continue in coming years. As robots become more capable, they need to integrate with other robotic devices. A robotic ecosystem must provide secure connectivity, flexible interoperability & analytics tools. while the future of robotics ~~and arti~~ is very exciting, there are still many obstacles to overcome. The current state of the field is highly specialized and robots must be equipped to perform a variety of tasks. while this is not an issue today, a new challenge is in the future of robotics.

Q2. Q Name the Software used for Robot's Programming & write its specifications.

Ans. There are various tools & softwares to program a Robot, one can choose any of them to work with. One of the Software, that is currently being used in industry is "Robo DK". It is a powerful and cost-effective Simulator for industrial robots and programming. It's simulations & offline programming tools allows you to program your UR Robots outside the productive Environment, eliminating production downtime caused by Shop floor programming.

#Features & Specifications

→ Intuitive graphical user interface: NO programming skills are required, Program your robot with a few clicks.

→ Robot Machining: optimization tools are provided to automatically Convert CAM Prog. to robot Prog.

→ multiple Robot Simulation: Users Can Program 500 Robots Mechanism & External axis using the same simulation Environment.

→ Robot Calibration: Robot Calibration tools are available to improve robot accuracy.

→ Cycle time Calculations.
→ Surface & Edge following
→ cost effective solution.

Q3. What do you understand by Intelligent Robot? give Some Examples.

A Robot is said to be Intelligent, iff it is able to perform the tasks given by a human, with the help of efficient Processors, multiple sensors & huge memory. These are what, helps a Robot to Exhibit Intelligence. These can work faster than humans & perform multiple tasks simultaneously, accurately & effectively, Additionally intelligent robots are efficient assistants in important fields, especially medicine. Though an intelligent Robot have many advantages, but it also comes with many advantages also, For Example, Their production requires plenty of time, resources & and huge cost.

Examples of some intelligent robots:

→ ~~Nuro~~ Nuro Self driving vehicle
→ Knightscope autonomous security robots
→ REV-1 Delivery Robot
→ The world renowned Robot "Sophia" etc.,

Q Draw a program for a Robot to pick an object from a particular position to bin or vice-versa

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MOVE P1
HERE P1 - used during leadthrough of manipulator
MOVES P1
DMOVE (4,125)
APPROACH P1, 40 MM
DEPART 40 MM
DEFINE PATH 123 = PATH (P1, P2, P3)
```

MOVE PATH,123
SPEED 75

Input interlock:
WAIT 20, ON
OUTPut interlock:
SIGNAL 10, ON
SIGNAL 10, 6.0
Interlock For Continous Monitoring:
Reach 25, SAFESTOP

Gripper
OPEN
CLOSE
Sensor and Servo-Controlled hands
CLOSE 25 MM