Educational Robotics Kits

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Manipulative robotic arm for multipurpose work

Robotic light sensor

This robot uses light sensor to follow a line on the floor

Educational robot with various kinds of sensors including light sensor

Remote control educational car

Remote control machine

Obstruction detection industrial level robot

Robotic kit to study obstruction detection
Robotics education aided with robotic kits helps students to keep pace with the ever-changing technological scenario and scale up their knowledge accordingly. It also provides the students, learners or researcher practical knowledge on the robotic mechanism, functionality and many more technicalities related to it.

Teaching robotics through kits has taken up the attention of scholars worldwide and they are working on providing innovative and authentic learning in the area of robotics teaching. Some such kits are discussed here.

**Robot Arm**
A robotic arm is versatile and can serve several other functions. All these are possible because of many kinds of parts it is made up of like suction cup, holders, joints, etc.

In robotic arms, advance servo motors are embedded to perform various activities with accuracy and precision. The languages that can be used to make such arms function are C++, C, python, etc. These arms can be controlled through mobile phones, personal computers, sensors, etc.

**Remote Control Wireless Machine**
Students are generally familiar with such robots as they have grown up playing with robotic cars. Through these kits a learner or a student learns about programming, mechanics and robotic activities. The languages used in programming robotic remote controlled car or machine are C++, C and Python.

**Humanoid Educational Robots**
Humanoid robots are very effective in teaching robotic movement and various programming languages are required to study the robotic movements. These kinds of robotic kits create a great deal of excitement among the learners. Such robots are programmed using programming languages such as ScratchX, Python, embedded C and C++. These also help the students understand the basic anatomy of the human body. All motor movements and controls of human body can be studied through it.

**Obstruction Detection Educational Robots**
There are low-cost obstruction detection robotic kits that help students understand how artificial intelligence can help a machine to analyze the environment around it and work accordingly. The robots are programmed to avoid the unknown and unaware environment according to pre-programmed codes. The application of proximity sensors can help robots avoid any obstacle in the path. Through such kits students are also taught about robotic neural networks and Bayesian networks.

**Light Detector Educational Robots**
Such robots move in the direction of light using embedded algorithm and artificial intelligence. For example, when light falls on the right side of the robot it will move towards the right and if it falls on the left side it will move towards the left. Such robots are also programmed to move against the light direction. For example, during the lighted condition it will stop moving and it will move in the dark.

Parts used in such robots are light dependant resistors, drivers, comparators, motors, power source and light sources.

**Scribbler Sensor Sensitive Education Robots**
Scribbler is one of the most popular educational robots. Such robotics kits can be used to teach students the essentials of robotics, programming languages, music, mathematics and physics.

Such robots are multi-robot manipulators. As several functions and detectors are installed in it, this robot is used to understand multiple functions like proper system feedback and control mechanism working in a robot.

**Programming Control Educational Starter Kit**
Such kits are basically arduino-based and help students to understand programming as well as electronic knowhow of robotic functionalities. Some starters’ robotic kits like a calculator-controlled robot can help students have hands-on experience of studying mathematics and innovative science. Students can learn TI-BASIC through it.

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