

Robotic Arms and Robotics

The word robot comes from the Czech word "robota", meaning "forced labor." The stuff of science fiction robotics in the 21st century is different than your parents or your grandparents' ideas of robotics. What used to be thought of as futuristic improbability is now becoming a reality.

There are, theoretically, three Laws of Robotics. The Laws of Robotics were developed by a small group of scientists who believe that robotics is the wave of the future. The first law, referred to as law zero, is that a robot may not injure humanity, or, through inaction, allow humanity to come to harm. The second law states that a robot may not injure a human being, or, through inaction, allow a human being to come to harm, unless this would violate a higher order law. This law was created so that mankind would seek not to create robots that would harm people. The third law is that a robot must obey orders given it by human beings, except where such orders would conflict with a higher order law. And finally the final law is that a robot must protect its own existence as long as such protection does not conflict with a higher order law. These were used in a recent Hollywood movie however many people don't know that the Laws of Robotics actually exists.

According to The Robot Institute of America a robot is a "reprogrammable, multifunctional manipulator designed to move materials, parts, tools, or specialized devices through various programmed motions for the performance of a variety of tasks." This is a scientific sounding description however most people just think of robots as machine that mimic their counterparts. In practical usage, a robot is a mechanical device which performs automated tasks.

The most developed robot in practical use today is the robotic arm and it is seen in applications throughout the world. We use robotic arms to carry out dangerous work such as when dealing with hazardous materials. We use robotic arms to carry out work in outer space where man can not survive and we use robotic arms to do work in the medical field such as conducting experiments without exposing the researcher.

Some of the most advanced robotic arms have such amenities as a rotating base, pivoting shoulder, pivoting elbow, rotating wrist and gripper fingers. All of these amenities allow the robotic arm to do work that closely resembles what a man can do only without the risk.

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