A Brief Note on Robotics

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ABOUT THE STUDY

A robot is a product of the robotics field, which involves the creation of programmable robots that can aid people or replicate their operations. Robots were originally designed to perform repetitive activities (such as making vehicles on an assembly line), but they have since evolved to accomplish activities such as fighting fires, cleaning houses, and aiding with extremely complex procedures. Each robot has a distinct level of autonomy, ranging from completely autonomous bots that perform tasks without the need for human intervention to human-controlled bots that perform jobs that a person would do.

TYPES OF ROBOTS

Mechanical robots come in a variety of sizes and forms to do the work for which they were designed. All robots have various designs, functions, and levels of autonomy. Robots are evolving to perform jobs that humans just cannot, from the 0.2 millimeter-long "RoboBee" to the 200-meter-long robotic freight vessel "Vindskip." There are five kinds of robots.

Pre programmed robots: Pre-programmed robots do modest, repetitive activities in a controlled setting. A pre-programmed robot is an example of a mechanical arm in an automobile assembly line. The arm has only one purpose to accomplish-weld a door shut, put a part into the engine, etc., and its goal is to do it better, faster, and longer than a person could.

Humanoid robots: Humanoid robots resemble humans in appearance and/or behavior. Human-like jobs (such as sprinting, leaping, and carrying products) are frequently performed by these robots, and they are occasionally created to resemble people, with human-like characteristics and attitudes.

Autonomous robots: Autonomous robots do not require human operators to function. These robots are often built to do jobs in open fields without the need for human supervision. They're one-of-a-kind in that they employ sensors to detect the environment around them, and then use decision-making mechanisms (typically a computer) to choose the best next action based on their data and purpose. The Roomba vacuum cleaner, which utilizes sensors to move freely throughout a home, is an example of an autonomous robot.

Teleoperated robots: Teleoperated robots are semi-autonomous robots that can be controlled over a wireless network from distant. These robots are commonly utilized in distant places where the weather, environment, and other variables are severe. Human-controlled submarines were employed to repair undersea pipe breaks during the BP oil spill, and drones were used to locate landmines on a battlefield as examples of teleoperated robots.

Augmenting robots: Augmenting robots can either improve modern human skills or replace those that have been lost. The topic of robotics for human enhancement is one in which science fiction might become reality very soon, with bots capable of redefining humanity by making people faster and stronger. Robotic prosthetic limbs and exoskeletons used to lift heavy weights are examples of modern augmenting robots.

Virtual reality robots have a wide range of applications, from defusing bombs to performing surgery.

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