

Service Robot introduction

There are many kinds of service robots, and I learned that service robots can be divided into family service robots and commercial service robots at present. Family service robots include floor sweeping robot, floor mopping robot, window cleaning robot, companion robot, education robot and recreational robot, etc. Commercial robots include food delivery robots, greeting robots, hotel robots, shopping mall shopping guide robots, bank counter robots, inspection robots and so on.

Take floor sweeping robots for example. At home, as everyone knows, floor sweeping robots are very popular. The body of the sweeper is a wireless machine, mainly of disc type. Run on a rechargeable battery, using a remote control, or the operating panel on the machine. General can set a time to make an appointment to clean, charging. There are sensors in the front to detect obstacles. If you encounter walls or other obstacles, you will turn around by yourself and take different routes according to each manufacturer's Settings. There are different plans to clean the area. In some videos, we find that they can also play with children. Robots play many roles in our life. They have different shapes and various additional functions.

Companion robots are not as common as floor sweepers. They are mainly used to look after the elderly. Shigeru Kanno, a professor at Waseda University in Japan, has spent seven years developing a robot called Twendy-one, which can help elderly people get up, deliver and feed them. The Twendy-one is 1.5 meters tall, weighs 110 kilograms and moves freely on four wheels. And they can judge for themselves and steer clear of obstacles. The user simply says "help me up!" before getting up.", it will use both hands to help people up from the bed and help the elderly into the wheelchair. It has soft silicone fingers and flexible joints that allow it to take everything including raw eggs and slices of bread.

Food delivery robots are usually used in restaurants. They can tell the guests the names of the dishes and deliver the dishes. In addition, food delivery robots have been used in this virus outbreak to deliver the medical supplies and food. That way, human-to-human contact can be avoided, reducing the way the virus spreads. They are similar to hotel robots. In some hotels, these robots are very popular. They are called "the hotel housekeeper" kindly. They can guide guests and provide them with room service according to their needs. The robot can take the elevator by itself. This kind of robot can reception guests, deal with the registration, clean the room, pour the coffee and so on.

Indoor guideway intelligent inspection robot system is one kind of inspection robot, which can realize automatic recognition of infrared temperature measurement, local discharge detection, signal status indicator of cabinet surface and protection device and automatic

recognition reading of pressure plate status, blank opening position, current terminal status, device signal lamp indicator and digital display instrument of protection screen cabinet. The system adopts slide-contact power supply mode of guide rail to realize 24-hour uninterrupted inspection, and can also customize the cycle and equipment for special inspection. This kind of robot is easier to operate, which can not only enable operation and maintenance personnel to use AR real scene monitoring technology, but also can use intelligent inspection technology to set up the system and then carry out regular, repetitive and multiple tasks.

Demolition robots are used in the construction industry to demolish buildings at the end of their lifecycle. These mobile robots are a relatively new form of professional service robot and leverage a variety of end-of-arm tools such as breakers, crushers, drills or buckets to break through building materials. Most demolition robots resemble small excavators, except without the cab, and are designed to pack a strong punch in a small space that will fit through doorways and stairways. Demolition robots offer much needed safety, efficiency and cost-savings in a labor-intensive industry. With strong growth potential, demolition robots are set to disrupt the construction and demolition industry by leading a wave of automation.

In my opinion, ideal service robots should have a variety of functions. Firstly, they have a cute appearance. So they can make a good impression on people. Secondly, they have the function of language dialogue. Many people usually feel lonely in today's society because of the lack of company. The robots should take responsibility for human mental health. Just like Baymax in the movie "Big Hero" who is gentle and considerate. In terms of education, children also need to learn from communication, but many parents are busy with their work so as to ignore this problem. It is essential to let the robot help parents care for their children. Thirdly, they have flexible mobility. If a robot wants to provide good service, it must be able to move to a specific position according to human needs, or be able to perform certain actions. Like looking for the designated person needs both vision and action. Fourthly, it can provide people with happiness, like telling jokes, playing music, dancing, playing videos, autonomous navigation and judging people's emotions. Some of these functions have been applied to different robots, but it is difficult to combine these things together. Lastly, if it is used at home, it would better do some housework like sweeping, after all, we all need robots to lighten our burden. This is why the floor sweeping robot robot sweeper is so popular.

All in all, service robot is still in the development. I'm looking forward to seeing more interesting service robots.