

THE APPLICATION OF THE ROBOT FOR THE COFFEE MANUFACTURER

Rahul Rathore*

*Assistant Professor,
Department of Computer Science,
Faculty of Engineering,
Teerthanker Mahaveer University,
Moradabad, Uttar Pradesh, INDIA
Email Id- rahul.engineering@tmu.ac.in

DOI: 10.5958/2249-7315.2021.00332.4

ABSTRACT

The industry is now becoming smarter by the day. People want their lives to be more simple and welcoming. Everyone is looking for simplicity in their lives for the sake of convenience and ease of living. As a result, the importance of cutting-edge technology is recognized. These cutting-edge technologies are advancing at a breakneck pace. One of the advantages of these technologies is that they make day-to-day activities more convenient and simple. Robotics is a kind of technology that is getting a lot of traction in a wide range of applications. In the food, consumer goods, plastics, and electronics sectors, the usage of industrial robots is increasing on a regular basis, although it is still mainly concentrated. The robotic arm coffee maker's aim was to build a light robot utilizing lightweight materials including PVC pipe, ACP sheet, and aluminium.

KEYWORDS: Manipulator, Remotely Controlled, Robotic Arm, Technology.

1. INTRODUCTION

A robot is a nearly sentient entity capable of carrying out activities with the help of some supervision. The robot, in fact, is an electromechanical device controlled by computer and electrical programming [1]. Robots may be classified as autonomous, semi-autonomous, or controlled remotely. Robots are frequently employed for a variety of jobs, including petrol stations, drain cleaning, and other operations that are considered too dangerous for humans to do. A robot arm is a programmable robotic manipulator that performs tasks comparable to a human arm. This robotic arm's design is customizable and controllable. Because it looks so much like a human limb, the robotic arm is frequently referred to as anthropomorphic. Humans now carry out all of the industry's operations on their own[2]. A robotic arm, on the other hand, may be utilized for a variety of tasks such as welding, blasting, and spraying, among others. Components such as microcontrollers and motors are used to build a self-contained robotic arm. This increases their running speed while also lowering the operation's difficulty.

In the realm of developing technology, robots are now a hot topic. People are using robots to assist them discover solutions in a variety of fields. The employment of robots in the food sector is one of the most recent advancements. Robots are fermenting javas, a new technological trend aimed at alleviating worker shortages and rising labor costs. Unmanned cafés and pubs equipped with a comparable system are no longer sci-fi fantasies. In the food sector, it seems that the robot revolution is well started, with robots performing professional jobs formerly performed by people. Cooks were replaced by robots in Boston. Machines that receive commands via an interface are dislodged and served in Prague[3]. They accept orders from fast-food machines in Denver, looking after art that has been passed down through the generations. One of the company's selling

arguments is that it eliminates human effort from purchasing a cup of coffee [4]. Figure 1 shows the Industrial Robot Arm. In the food sector, it seems that the robot revolution is well started, with robots performing professional jobs formerly performed by people. Cooks were replaced by robots in Boston. Machines that receive commands via an interface are dislodged and served in Prague. They accept orders from fast-food machines in Denver, looking after art that has been passed down through the generations. One of the company's selling arguments is that it eliminates human effort from purchasing a cup of coffee. In 1800, Jean Baptiste de Belloy introduced a French drip pot, an improved infusion brewer.



Figure 1: The Industrial Robot Arm[5].

The system is made up of two parts: a jar that holds a portion of freshly ground beans and a dripping drinking vessel. Between the pieces, a tissue filter was provided. Pouring boiling water into the upper container and then unloading the lower vessel to fill the cup with a fresh hot mix is how drip pot joes are made. The water cools as it drips from section to section, which is a flaw in this method [6].Figure 2 shows the coffee maker robotic arm.



Figure 2: Coffee maker robotic arm[7].

1.1 Robotic Arm Used In Various Applications:

1.1.1 The robotic arm can be programmed to do whatever sort of thing you want. Tasks such as welding, squeezing, rotating, etc (figure 1). For instance, robot arms in the vehicle assembly line execute a number of functions. Such as workmanship and rotation and positioning of pieces during the assembly process[8].

1.1.2 The Space Shuttle Remote Manipulator Device has a multi-degree of freedom and autonomous arms that may perform a range of tasks, including Space Shuttle inspections for specific purposes. The final effectors were connected to the deployed boom using

cameras and sensors.

1.1.3 Robot weapons, which may be controlled manually or autonomously, can be utilized to execute a broad variety of tasks with high accuracy. The robotic arm may be constructed for industrial purposes and can be fixed or fixed Mobile (i.e. wheeled). Pressure sensors have been put into robotic hands to tell the machine how hard it is. The robot only has one hand on something. This is where the Robot will drop or crush whatever it is carrying.

1.1.4 "Neuroarm" utilizes little devices in medical research. Laser scalpels, for example, can perform soft tissue manipulation, needle penetration, suture, and cauterization with pinpoint accuracy [9].

1.2 Purpose For Using Robot Coffee

1.2.1 Consistency Would Ensure Consistency:

One of the most appealing features of a robot arm coffee maker is its ability to dependably produce high-quality, precise coffee. If the software and brewing facilities are set up properly and aesthetically, there can be no accident or fault during working hours. The robots have a high degree of accuracy and reproducibility. The uniformity of the coffee can be guaranteed by outsourcing all of the work to them, and customers may anticipate consistent and great brewing results. Consistency and repeatability are always the most important things to consider while brewing coffee. With robot arm coffee machines, customers will never have to select a new flavor.

1.2.2 Versatility Saves More Time

A coffee maker with a robot arm does more than simply brew coffee; it also acts like a human. Robot arms with up to 8 degrees of freedom of movement may achieve agility comparable to your own. When linked to the coffee counter, a robot arm coffee maker may perform virtually everything, including load and grind coffee beans, operate coffee machines, and even distribute drinks to customers. The flexibility offers a great deal of comfort while conserving battery life.

2. LITERATURE REVIEW

A robot arm coffee maker may be used to brew coffee using an electronic manipulator. It's all about the shape and function of the upper arms. Previously, industrial production was the primary use for robotic arms. With creative ideas, traders are already bringing robot weapons into the coffee industry. They may be used as robot arm coffee makers with the right programming and brewing equipment [10].

3. DISCUSSION

This paper discusses a robot is a virtually intelligent creature that can do tasks with the assistance of some supervision. In reality, the robot is an electromechanical device that is controlled by electrical and computer programming. Autonomous, semi-autonomous, and remotely controlled robots may all be categorized. Robots are often used for a number of tasks, including filling stations, drain cleaning, and other tasks that are too hazardous for people to perform. A programmable robotic manipulator that performs functions similar to a human arm is known as a robot arm. The design of this robotic arm is adaptable and controlled. The robotic arm is sometimes referred to as anthropomorphic since it resembles a human limb so closely. All of the industry's activities are now carried out entirely by humans. A robotic arm, on the other hand, can do a range of operations, including welding, blasting, and spraying. A self-contained robotic arm is constructed using components such as microcontrollers and motors. This improves their speed while also reducing the complexity of the procedure.

Robots are now a popular subject in the field of creating technology. Robots are being used to help people find answers in a number of areas. One of the most recent developments is the use of robots in the food industry. Coffee is being fermented by robots, a new technological trend aimed at reducing labor shortages and rising labor expenses. Unmanned cafés and pubs with a similar setup are no longer science fiction. The robot revolution seems to be well underway in the food industry, with robots doing professional tasks that were previously done by humans. In Boston, cooks were replaced by robots. In Prague, machines that accept instructions via an interface are removed and serviced. They take orders from Denver fast-food machines while caring for artwork that has been handed down through the centuries. One of the company's selling points is that it removes the need for humans to purchase coffee.

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4. CONCLUSION

The robotic arm coffee maker's aim was to develop hardware and software for an accelerometer-driven robotic arm. The movement is very precise, reliable, easy to monitor, and user-friendly, according to the findings. It is cheap, and the cost of building a robot is little. As a consequence, you may find robots at virtually every café. Using common sense physical data Tasks with better transition algorithms across many families. The Robot Assistance Arm would have to be able to help with a wide range of problems that humans encounter on a daily basis. However, the human-likeness of the resulting configuration cannot be guaranteed. It's worth praising the Robotic Arm's potential scope. Patients who are paralyzed from the neck down will control robotic arms with their emotions. It will be able to command a robot arm to pick up and bring a bottle of coffee to her lips. She hadn't been able to drink without help for almost 15 years. In a number of sectors, including military and industrial, a robotic arm will be in great demand.

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