Chapter 9
Agribot

Ravi Kumar Poluru

https://orcid.org/0000-0001-8591-5266
Vellore Institute of Technology, India

M. Praveen Kumar Reddy
Vellore Institute of Technology, India

Rajesh Kaluri
Vellore Institute of Technology, India

Kuruva Lakshmanna
Vellore Institute of Technology, India

G. Thippa Reddy
Vellore Institute of Technology, India

ABSTRACT

This robotic vehicle is a farming machine of significant power and incredible soil clearing limit. This multipurpose system gives a propel technique to sow, furrow, water, and cut the harvests with the least labor and work. The machine will develop the ranch by considering specific line and a section settled at a fixed distance depending on the crop. Moreover, the vehicle can be controlled through voice commands connected via Bluetooth medium using an Android smartphone. The entire procedure computation, handling, checking is planned with engines and sensor interfaced with the microcontroller. The major modules of the vehicle are cultivating, sowing seeds, watering, harvesting the crop. The vehicle will cover the field with the help of the motors fixed which is being controlled with the help of the voice commands given by the user. The main motto of this project is to make the vehicle available and should be operated by everyone even without any technical knowledge.

INTRODUCTION

In the field of agribusiness, diverse tasks for dealing with overpowering material are performed. For instance, in vegetable trimming, specialists should deal with overwhelming vegetables in the gathering season. Also, in natural cultivating, which is quickly picking up notoriety, specialists should deal with substantial fertilizer packs in the preparing season. These activities are dull, tedious, or require quality and aptitude for the laborers. In the 1980s numerous horticultural robots were begun for innovative work. Kawamura and collaborators built up the organic product reaping in the plantation. Grand and collaborators built up the apple reaping robot. In any case, a large number of robots are not in the phases of diffusion but rather still in the phases of innovative work. It is imperative to discover rooms to accomplish higher execution and lower cost of the robots. Over history, horticulture has advanced from a manual occupation to a profoundly industrialized business, using a wide assortment of devices and machines. Scientists are presently looking towards the acknowledgment of independent farming vehicles. The main phase of advancement, programmed vehicle direction, has been examined for a long time, with numerous developments investigated as right on time as the 1920s. The potential advantages of computerized rural vehicles incorporate expanded profitability, expanded application exactness, and upgraded activity wellbeing.

Moreover, the fast progressions in hardware, PCs, and registering innovations have roused recharged enthusiasm for the improvement of vehicle direction frameworks. Different direction innovations, including mechanical direction, optical direction, radio route, and ultrasonic direction, have been explored. Horticulture includes the methodical creation of sustenance, bolster, and different merchandise. Notwithstanding creating nourishment for people and creatures, horticulture additionally delivers cut blossoms, timber, composts, creature shrouds, cowhide, and mechanical chemicals.

- **A robot** is a machine that can be programmed and reprogrammed to do certain tasks and usually consists of a manipulator such as a claw, hand, or tool attached to a mobile body or a stationary platform.
- **Autonomous** robots: They work completely under the control of a computer program. They often use sensors to gather data about their surroundings to navigate.
- **Tele-controlled** robots work under the control of humans and computer programs.
- **Remote-controlled** robots are controlled by humans with a controller such as a joystick or other hand-held device. Today agricultural robots can be classified into several groups: harvesting or picking, planting, weeding, pest control, or maintenance. Scientists have the goal of creating robot farms.

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