

The AgriBot Usage in Agriculture Marandure Elisha*

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Abstract

This project is going to address the problem of poor harvest in Zimbabwe and the world at large by creating a machine which is going to carry out a number of functions which will go a long way in alleviating possible poor harvest. Forecasting is key to agricultural activities and therefore this machine will be able to forecast weather patterns e.g. rainfall patterns, so that farmers know when to plant their crops. Furthermore the proposed machine is going to be able to test soil PH as well as fertility levels and such guide farmers on corrective measures so that good yield are realized. One other quality of this machine is it's adaptability to different environment with different weather patterns, but at the same time adapting to the system and give correct information useful for agricultural activities and ensuring good harvest. The proposed machine will also act as a security mechanism which can detect fingerprints and footprint of intruders who might want to steal from the fields to achieve this it will use the alarm system.

Keywords: AgriBot; Artificial Intelligence

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Description

The design of the machine will have a similarity to agricultural equipment and tractor design has been chosen. All the microchip controllers and sensors will be mounted on a four wheeled tractor model. With the continuous rise in the global's population, so is the demand for food and for that we need to increase the pace in which we produce, food as well as the quantity but the production of food is hampered by poor harvests and that's where the AgriBot comes to the rescue. They are there to monitor production and harvesting of food in order to give satisfactory results. According to the report made in 2015 for World Resources Institute, 'there was an argument that agricultural sectors would have to increase their production with an estimation of about 25% in order to meet demands.' Use of robots in agriculture increases the yields. The shortage of labour in the fields is also a contributor to poor harvests but with the introduction of these robots we're increasing the labour force in our fields hence an increase in production. These AgriBots provides a relief to farmers in use of them. They reduce human labour input a farmer has to give and gives him time to other things meanwhile the bots are in work, of course they need to be monitored here and then to avoid malfunctioning but not frequently if they're in good shape and the best the market has to offer. The bots need no payment for labour; they need maintaining and updating only. The suggested robot has many features to meet with the demands of the farmer as well as offer security. This amazing bot has special security features such as finger print and foot print detector that can be used to detect intruder setting off an alarm alerting the farmer therefore avoiding theft of farm products. The pH value of soil differs depending on where it is located and what it composes

of. Some crops are not to flourish in soils with a low pH value due to the acidity or high pH values so the pH detector featured on the agribot gives us the pH value of the land to be used for farming and with this information the farmer is able to determine the right crops to plant avoiding poor harvests and the right products to use to give the suitable pH value for the soil for the intended crops to be produced. This decreases the loses that would've incurred due to the instability of the soil's pH balance needed. Bad weather is a great contributor to low harvests so this agribots provides the day to day weather forecasting of that way the farmer is prepared for the worst to come and in a way able to save his production from loss

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