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AIOT WeedMaster Technology

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Abstract: *The Modern agriculture relies heavily on herbicides to control unwanted weeds in fields. However, these herbicides used in farming also have harmful chemicals that can cause health problems like, skin and eye irritation, asthma or any health issues. To address these concerns, innovative product using the IOT have been developed to create a weed detection and removal system. Currently, most modern automated agricultural machinery focuses on the tasks such as planting, irrigation & fertilization ,whereas weed removal still heavily required manual labor On average, it takes around 20–25 workersto clear weeds from a single acre of land. To solve this challenge, we propose a smart agricultural robot that can efficiently remove weeds without harming the main crops. The robot operates using a Raspberry Pi B+ as its central processing unit, controlling all movements based on pre-programmed instructions. It is specifically designed for row-cropping fields, where crops are planted with adequate spacing.The robot moves between crop rows, detecting and cutting weeds while staying on its designated path. Infrared (IR)sensors on both sides help it navigate; if the robot deviates, the sensors detect obstacles and send signals to the Raspberry Pi,allowing it to correct its course. This ensures that the main crops remain undamaged while weeds are effectively removed.By automating the weeding process, this system reduces labor costs, minimizes herbicide use, and promotes sustainable farming.*

Keywords: Moving Robot, Infrared (IR) Sensors & Internet Of Technology (IOT) Technology

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