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SMART IRRIGATION AND LEAF DISEASE DETECTION USING IOT AND CNN

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ABSTRACT

Agriculture is the main source of livelihood for many people in India but very little advancement is done in agriculture to improve the field and tackle issues like irrigation and leaf disease detection. With the advancement of IoT there is a chance of creating an IoT based system which helps the farmers to monitor the moisture content of soil, temperature around the field, water level in the tank and by using these values the motor will be turned on/off automatically which helps in improving the quality of the crops. Leaf Disease Detection in agriculture is being done manually for many years. This process can be done automatically using deep neural networks. The tomato crop is a significant staple in the Indian market with high business esteem and is delivered in enormous amounts. Diseases are impeding to the plant's health which thusly influences its development. To guarantee negligible misfortunes to the developed harvest, it is essential to direct its development. There are various sorts of tomato diseases that focus on the yield's leaf at a disturbing rate. This paper receives a slight variety of the convolutional neural system model called inception V3 to recognize and distinguish ailments in tomato leaves. Neural network models employ automatic feature extraction to aid in the classification of the input image into respective disease classes. This proposed framework has accomplished a normal exactness of 90-93 % showing the attainability of the neural system approach significantly under negative conditions. Hence the paper provides an insight of creativeness to the researchers to develop an integrated smart irrigation and leaf disease identification system that gives successful results in real-time.

KEYWORDS: *Bluetooth, CNN (Convolutional Neural Network), Raspberrypi, WSN(Wireless Sensor Network), Zigbee*

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