A Project Report On

AUTOMATIC IDENTIFICATION OF WEEDS IN VEGETABLES USING COMBINED FEATURES OF COLOR, TEXTURE AND SHAPE

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ABSTRACT

Weed is nothing but "unwanted plant". Any weed in any vegetables degrades the quality of vegetables. Hence our motto is to identify the weeds in vegetables and thereby improving the quality of the vegetable. The main question that arises in mind is what makes it difficult for human being to separate weeds from vegetables? First obvious answer is that, it is time consuming. And the second answer is that, when the weed and vegetables are of same colors which makes almost impossible for human being to recognize at the first site.

This project tries to solve these difficulties. The first difficulty of "time consumption" can be reduced by automating the identification of weeds in vegetables. This can be done by making robots to do our job. This project is the "vision" of robots. The second difficulty also arises to robot even when colors of weed and vegetable are same. For that reason we have chosen combined properties of color, texture and shape which increase the accuracy of the system. When colors are same we can go for texture properties and even when unrecognizable by texture, then we can go for shape properties.

The major advantage of the system is that it increases the quality of the vegetables there by improving quality of life. This system can be used in any supermarkets in order to separate the weeds from vegetables. And this system can be extended to directly implement in the agricultural field. Then the system has to know the potential weeds that can be present in the field.

This project involves 5 types of vegetables and it has given tremendous results. We have achieved over all accuracy of 94.67% in segmentation and 94% accuracy in identification.