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SHORT COMMUNICATION **OPEN ACCESS**

Identification of disease affected potato by using transform

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ABSTRACT

Agriculture support is mandatory for each and every researcher to contribute to that particular sector focusing on potato agriculture cultivation even before and after potato cultivation in India. There are several diseases are affected in potato but this work mainly focused on some specific diseases namely Common scab, Early Blight, Black Scruf and Pink Rot the sampling of the potato taken from the open database and feature extraction takes a major role in both before and after cultivation of potato and make comparison between transform like CNN, Haar and Wavelet Transform involved for the comparison among them for to identify the effective and suitable transform for this identification purpose.

Keywords: *common scab, Early blight, Black scruf, Pink rot, Edge Detection, CNN Transform..*

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INTRODUCTION

This work aims to support the farmers for before and after cultivation of potato and which support earlier detection of several diseases like common scab, Early blight, Black scruf, Pink rot[1-3].

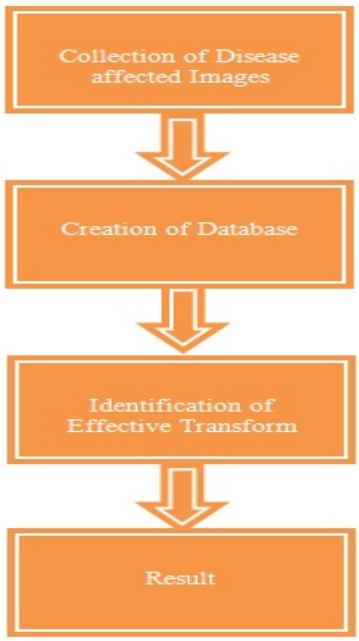

Figure 1. Entire Work flow process

The Figure 1 shows the entire work flow and the step1 which has to be collect the image from open database namely apsnet and feature extraction and database creation are the major work for the feature extraction edge and color are taken for the process for the proposed system and then database was be created[4-7].

MATERIAL AND METHODS

This work focus on the feature extraction like edge and color then for the earlier detection of disease like common scab, Early blight, Black scruf, Pink rot and Three transforms has been taken for this work namely Haar, CNN and Wavelet Transform taken for the work make comparison to identify the effective and suitable transform which is shown in the Figure 2. The Figure 3 indicates the sample Potato photo and by processing the feature extraction algorithm edge identified disease affected potato shown in the Figure 4 and the Figure 5 shows the another feature extraction process like color extraction also the major part to earlier identification of disease in the potato [8].

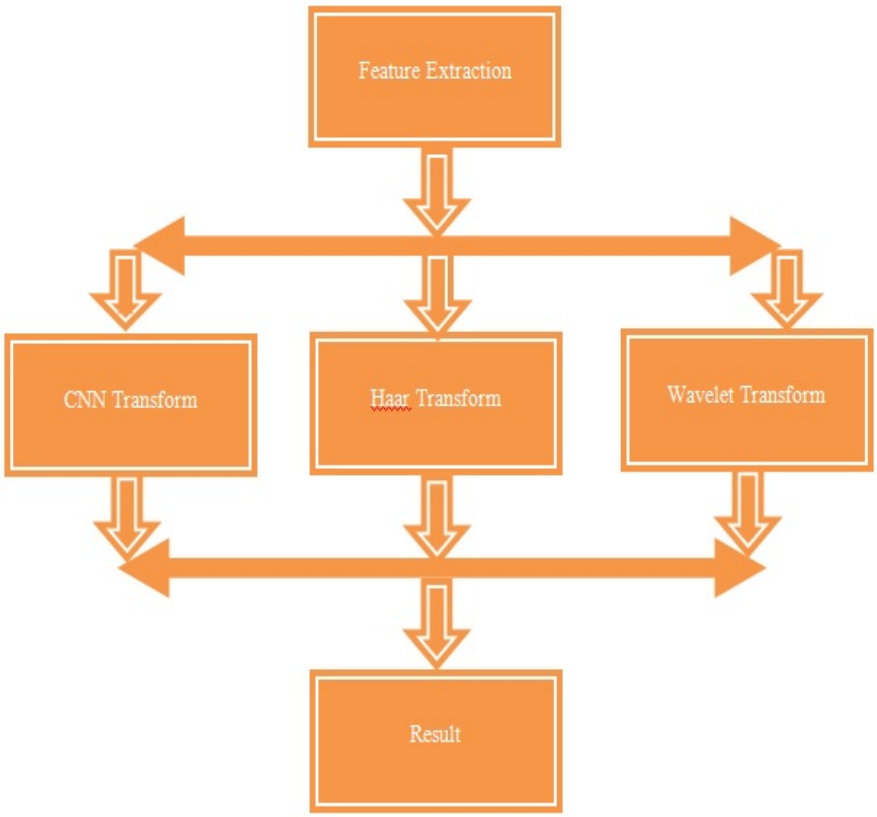

Figure 2. Feature Extraction and Identification of effective Transform

Figure 3. Sample Disease affected Potato

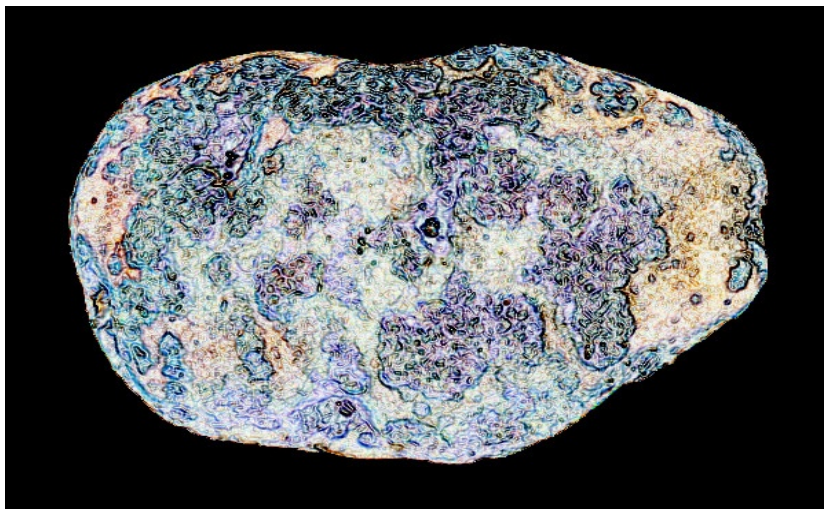

Figure 4. Edge Detected Disease affected Potato

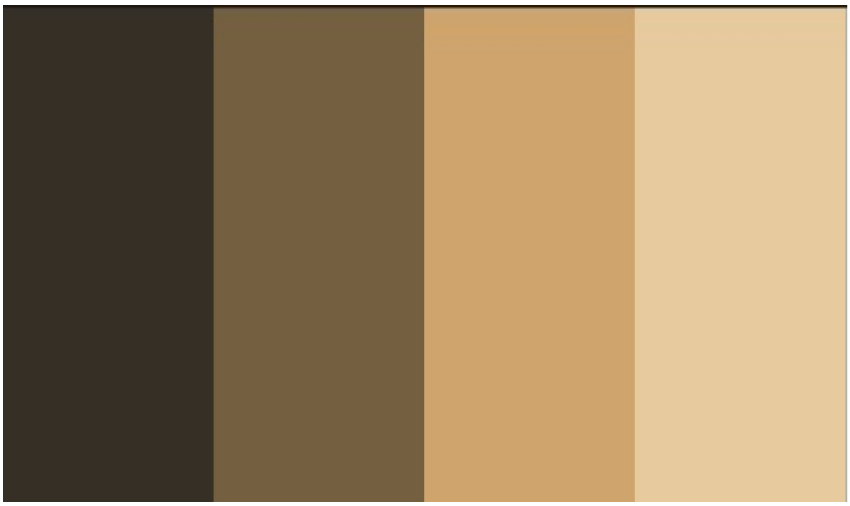

Figure 5. Color Feature Extracted from the Potato Image

IMPLEMENTATION

The Implementation part which helps us to identify the effective transform suitable for the identification of disease affected potato before and after cultivation in the agriculture field. To make comparison between CNN, Haar and Wavelet Transform accuracy will be taken into for the result justification purpose[8][5].

Table-1: Execution of CNN

S.No	Parameter	Result (%)
1	Common scab	100
2	Early blight	100
3	Black scruf,	100
4	Pink rot	95

Table-2: Execution of Haar

S.No	Parameter	Result (%)
1	Common scab	100
2	Early blight	95
3	Black scruf,	95
4	Pink rot	95

Table-3: Execution of Wavelet

S.No	Parameter	Result (%)
1	Common scab	95
2	Early blight	95
3	Black scruf,	95
4	Pink rot	100

CONCLUSION

This wok focus on the potato image creation from the open database and feature extraction plays a vital role in that color and edge detection are the two important things then three transform made the comparison for the accuracy for the detection of diseases namely common scab, Early blight, Black scruf, Pink rot. Among the comparison between the all the transform CNN transform accuracy is suitable for the entire work for the earlier detection of disease affected potato before and after cultivation from the result justification from the Implementation part.

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