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Potato disease classification at the very beginning stage using image processing Technologies

A Project Initiation Document by

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ABSTRACT

In South Asian nations, farming is one of the primary economic sectors for generating income. And the development of the potato represents an important turning point in these agricultural activities. In order to receive guidance on infectious illnesses in crops, farmers must consult experts. cultivation. These specialists' consultation processes could take a very long time, and it would be highly costly, but the absence of qualified professionals is Another issue that farmers deal with. The populace has offered numerous remedies for numerous while the agriculture sector is also moving for the diverse issues of the different sectors, solutions that are offered for the many agricultural issues At the Artificial intelligence and computer vision are currently two of the most widely used technologies. to identify plant diseases in accordance with the literature Consequently, the Almost all the currently conducted research focuses on detecting and identifying various phenomena. Illnesses after contaminating every leaf with the disease. A benefit of this illness detection latency It could serve as a justification for destroying a farmer's crop and a factor in lowering their yield. This project's objective is to categorize three types of early potato disease. stage utilizing deep learning methods and image processing. This must be accomplished, has chosen to implement transfer learning on the pre-trained model, which vgg16 In contrast, the pre-trained algorithm was vgg16. In the suggested the TensorFlow framework has done effectively when included into portable electronic gadgets. because it is regional. Due to the following, the picture data augmenting has been completed. inadequate picture data. The dataset includes approximately 2152 photos of potato leaves. of three groups of potato illnesses. They are early and late blight-free and in good health. The model's accuracy came in at about 85%, and this is the degree of accuracy with which a performed during models testing and evaluation.

Keyword: Transfer Learning, Computer Vision, Convolutional Neural Network, Potato disease detection