An Image Recognition System for Crop Disease Identification of Paddy Fields in Sri Lanka

MA Hettiarachchi#, N Wedasinghe

Department of Information Technology, Faculty of Computing General Sir John Kotelawala Defence University, Sri Lanka

Abstract. In agriculture, detecting leaf disease is a challenging task that is used to prevent serious outbreaks. Rapid identification and classification of paddy crop disease can enable farmers to prevent major losses. Technology advancement will aid them in early disease identification, reducing percentage expenses, and making the field appealing for their activities. They are legally liable for much destruction, and they are classified by fungal and bacterial issues. This is the rationale behind the suggestion that farmers use visual cues based on the identification and diagnosis of illnesses affecting crops. The main advantage of utilizing digital image processing in farming is that they are more effective, more detailed, and more productive relative to real-world human beings. Nowadays, image processing is among the rapidly growing technologies. In the real-world farmers and agriculture experts visually inspect agriculture crops such as cereals, commercial crops, fruits, and vegetables as affected by various recognition and classification diseases. However, this process is time-consuming and very subjective in addition. Numerous disease detection, characterization, and quantification approaches have been created and used in various crops. The associated works are contrasted based on picture segmentation, feature extraction, feature selection, and classification. Machine learning technologies and image processing techniques benefit farmers in all cultivation practices. Thus, the proposed work would be able to identify the field issue in a reasonable amount of time, and the guidance would enable the farmer to take the appropriate actions to enhance the quality of crop production, prevent significant crop losses, and reduce manufacturing costs while preserving the environment.

Keywords: *image processing, disease identification, feature extraction, feature selection, classification.*