

Disease Diagnosing System for Vegetable Crop Cultivation Based on Image Processing

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Abstract. Sri Lanka is an agricultural country, and it is one of the main incomes of the country as well as there is a large number of people who do farming as their main economy and living method and their families depend on agriculture. Apart from paddy cultivation vegetable crop cultivation is taking a major place in Sri Lankan dry zone. If we focus on vegetable crops there are hundreds of crop species cultivated in Sri Lanka. There are numerous crop diseases that damage vegetable crops in Sri Lanka and most of them still haven't been identified exactly it is the same as for the many numbers of differentiated diseases which affect agriculture. The primary goal of this study is to identify illnesses in vegetable crops growing in Sri Lanka's arid zone. There is much research done in Sri Lanka to identify diseases by processing plant leaves, roots, flowers etc... but there is a gap in identifying diseases by considering the stem of the plant and how the disease has affected it. So, my research is interested in identifying diseases of vegetable crops grown in the Sri Lankan dry zone by processing the diseases affected to the plant stem. Image processing is employed to extract information from disease plant stems, and CNN algorithms are used to classify different diseases in a very accurate and fast manner. Identifying diseases and being knowledgeable about the steps that must be taken to limit the effects of diseases is a big issue for farmers. This study discusses a disease diagnosis system that uses a CNN-based image processing approach to identify diseases for vegetable crop cultivation and to keep farmers with low literacy informed about measures to take to reduce the impact of various diseases on cultivation.

Keywords: *Image processing, CNN, Disease identification, Vegetable crops*