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(57) Abstract :
Color transform based approach for disease spot detection on plant leaf using image Processing, Machine learnings Algorithms for smart Agriculture Abstract: In this paper, we train an algorithm to recognize disease spots on plant leaves using image processing. With this method, disease hotspots are detected and categorized. This is the first and most important step in automatically identifying and classifying plant diseases. Comparing disease spots and healthy plant leaves reveals that the hue, but not the saturation, differs. As a result, the color change in the RGB image can be utilized to help identify diseased areas. This study evaluated the effects of working in the YCbCr, CIELAB, and HSI color spaces on the process of detecting sickness spots. The median filter can be applied to photographs to smooth them out. Lastly, the Otsu method can be used to detect the diseased region and define a threshold by analyzing the color component. Different leaves from the Monocot and Dicot plant families, as well as white noise and other distracting stimuli, were utilized in research. It was possible to create an algorithm that works regardless of the quantity of background noise, the type of plant being inspected, or the color of the infected patches.

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