

ABSTRACT

Identification of the leaf image is a process to recognize and identify the types of herbal medicinal plants. Leaf image recognition technology included in the image processing techniques that use characteristics of the plant. Current leaf image recognition can be performed using application software-based digital image processing with neural networks. With this application, it would be easier for humans to recognize and know the benefits of herbal medicinal plants.

The algorithm used for the implementation of this leaf image recognition system is to use 2D Wavelet filter. 2D Wavelet filters are used to obtain information essential characteristics of the image of the leaf. The resulting number is expected to feature vector representing the specific traits of each leaf image. The output of this process are used as input to the process of pattern recognition and classification. For this stage, we will use methods of artificial propagation neural network, or behind the back propagation (BP-ANN).

The result shown is how a system can recognize and compare patterns of certain leaves and can take appropriate decisions on any particular type of input leaf pattern. Designed system has a success rate of 78.28% total accuracy to recognize and compare patterns and take appropriate decisions.

Keywords : *2D Gabor, wavelet transform, neural networks, back propagation.*