

## ABSTRACT

*Hydroponic cultivation in Indonesia has been very developed. One of the plants that are widely cultivated hydroponically is the pakcoy plant. Pakcoy hydroponic plants are widely cultivated by farmers because they have a wide market and can be found in markets and supermarkets. Several studies use image processing methods to monitor the condition of hydroponic plants including pakcoy vegetables. This study uses image processing methods to form a classification model of pakcoy hydroponic plants that are ready to harvest and those that are not. The dataset used is 200 images of pakcoy plants in jpg format. which is divided into 2 classes. Each class consists of 100 images, the class labeled "Large" contains images of pakcoy plants that are ready to harvest, while those labeled "small" contain images of pakcoy plants that are not ready to harvest. All datasets go through the process of preprocessing and splitting the datasets. Furthermore, the modeling of the feature extraction results is carried out using the Local Binnary Pattern method and the K-Nearest Neighbor classification with the calculation of the Chi-Square distance. The model resulting from the combination of these methods produces a hydroponic pakcoy plant classification model with the highest accuracy reaching 100%.*

**Keywords:** *Chi-Square, K-Nearest Nighbor, Local Binnary Pattern, Pakcoy.*