

## ABSTRAK

### IMPLEMENTASI *SUPPORT VECTOR MACHINE* (SVM) UNTUK PENGELOMPOKAN DAUN TUMBUHAN OBAT BINAHONG (*ANREDERA CORDIFOLIA*) DAN SIRIH HIJAU (*PIPER BETLE*)

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Tumbuhan obat merupakan tumbuhan yang memiliki khasiat untuk mengatasi berbagai penyakit. Klasifikasi citra digital tumbuhan obat dapat dilakukan dengan menggunakan beberapa algoritma, salah satu nya adalah algoritma *Support Vector Machine* (SVM). Klasifikasi menggunakan algoritma ini dapat dilakukan dengan mengekstrak beberapa fitur diantaranya, warna, tekstur dan bentuk. Hasil kinerja klasifikasi pada penelitian ini akan dibandingkan dengan algoritma *Convolutional Neural Network* (CNN). Data yang digunakan dalam penelitian ini merupakan data primer sebanyak 450 citra binahong dan 450 citra sirih. Data terbagi menjadi data latih dan data uji, perbandingan data latih dan data uji yang digunakan yaitu , 70:30, 75:25, dan 80:20 dengan kombinasi jarak piksel 1,2,3,4 dan 5. Hasil terbaik didapatkan pada perbandingan 75:25 dengan nilai akurasi 92.44%.

**Kata Kunci** : Tumbuhan obat, Klasifikasi, *Support Vector Machine* (SVM).

## *Abstract*

### **THE IMPLEMENTATION OF SUPPORT VECTOR MACHINE (SVM) FOR CLASSIFICATION OF THE LEAVES OF MEDICINAL PLANTS BINAHONG (ANREDERA CORDIFOLIA) AND SIRIH HIJAU (PIPER BETLE).**

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*Medicinal plants are plants that have the properties to cure various diseases. One of the easily found medicinal plants in Indonesia is the binahong and betel plants. Binahong and betel plants are known to have useful properties for society. The properties possessed by these two plants are different, so it is important to be able to differentiate between the two leaves. Computers can differentiate between the two leaves using machine learning, known as classification. Classification can be performed by taking digital images of the medicinal plants. Digital image classification can be done using several algorithms, one of which is the Support Vector Machine (SVM) algorithm. Classification using this algorithm can be done by extracting some features such as color, texture, and shape. The performance of the classification results in this study will be compared with the Convolutional Neural Network (CNN) algorithm. The data used in this study is primary data consisting of 450 binahong and 450 betel images. The features that will be extracted from the data will go through preprocessing stages, such as resizing, labeling, and segmentation. The data is divided into training data and testing data, the comparison of training data and testing data used is 70:30, 75:25, and 80:20 with a combination of pixel distances 1,2,3,4, and 5. The best result was obtained in the comparison of 75:25 with an accuracy of 92.44%..*

***Keywords: Medicinal plants; Classification; Support Vector Machine (SVM).***