KLASIFIKASI JENIS CITRA DAUN JAMBU AIR MENGGUNAKAN METODE BACKPROPAGATION

Nama : **Erry Anggraini**

Nim : **111910092**

Program Studi : **Teknik Informatika**

Dosen Pembimbing : **Nur Nafi'iyah S.Kom., M.Kom**

ABSTRAK

Syzygium Aqueum merupakan anggota keluarga jambu-jambuan *(Myrtaceae)* yang disebut sebagai jambu air. Akar, batang, daun, bunga, buah merupakan ciri bagian dari tanaman. Namun masih banyak masyarakat yang belum terlalu mengenali ciri jenis tanaman dari bagian daun. Untuk mempermudah mengenali ciri dari jenis jambu air berdasarkan daun diperlukan bantuan sistem. Untuk membangun sistem klasifikasi ini menggunakan metode *Backpropagation*. Dengan menggunakan ekstraksi ciri warna RGB *(mean red, mean green, mean blue, standard deviation red, standard deviation green, standard deviation blue, variance red, variance green, variance blue, skewness red, skewness green, skewness blue)* dan ciri tekstur *Gray Level Co-Occurrence Matrix* (GLCM) *(contrast, energy, correlation, homogeneity)*. Data yang digunakan sebanyak 367 citra yang dibagi menjadi 2 bagian yaitu 332 data *training* dan 35 data *testing*. Menggunakan 2 model arsitektur jaringan syaraf tiruan (16-16-3) *hidden layer* dan (16-32-3) *hidden layer*. Dengan melakukan pengujian sebanyak 8 kali, setiap pengujian *hidden layer* dilakukan 4 kali pengujian. Hasil terbaik yang didapat menggunakan 32 *hidden layer* dengan tingkat akurasi sebesar 80%.

Kata Kunci : klasifikasi, *Backpropagation,* jambu air.

CITRA TYPES CLASSIFICATION OF GUAVA LEAVES USING BACKPROPAGATION METHOD

Nama   : **Erry Anggraini**

Nim   : **111910092**

Program Studi : **Informatics Engineering**

Dosen Pembimbing : **Nur Nafi'iyah S.Kom., M.Kom**

ABSTRACT

Syzygium Aqueum is a member of the guava family (Myrtaceae) which is known as the guava water. Roots, stems, leaves, flowers, fruit are characteristic parts of the plant. However, there are still many people who do not really recognize the characteristics of plant species from the leaves. To make it easier to recognize the characteristics of the types of water guava based on the leaves, system assistance is needed. To build this classification system using the Backpropagation method. Using RGB color feature extraction (mean red, mean green, mean blue, standard deviation red, standard deviation green, standard deviation blue, variance red, variance green, variance blue, skewness red, skewness green, skewness blue) and Gray texture features Level Co-Occurrence Matrix (GLCM) (contrast, energy, correlation, homogeneity). The data used are 367 images which are divided into 2 parts, namely 332 training data and 35 testing data. Using 2 models of artificial neural network architecture (16-16-3) and (16-32-3) hidden layer. By testing 8 times divided into 4 times in the test of 2 hidden layers. The best results were obtained using 32 hidden layers with an accuracy rate of 80%.

Keywords : *classification, Backpropagation, water guava.*