

ABSTRACT

An image can contain very important information and can also as a means of learning. Humans can analyze the object in an image to get various information. For example in the drawings of birds, we can analyze the original habitat, food type, behavior, and other things just by looking at the physical form the bird. This can be done because each bird has the physical characteristics to adapt to the environment, especially the type of food or which often referred to as morphological adaptations. This adjustment will affect the form of bird beaks and feet.

On this project created a system that can recognize the pattern or shape of birds, especially the form of beak and foot to analyze the types of food from the bird. The system will be made to apply Discrete Wavelet Transform (DWT) as a feature extraction and Artificial Neural Network (ANN) to analyze the pattern of bird beaks and feet. The system has been built to produce maximum accuracy of 90% on test forms part and 85% on the test form of the foot. From these data indicate that the shape of beak and feet can prove the theory of morphology, especially in birds.

**Key words: Adaptation of Morphology, Discrete Wavelet Transform (DWT),
Artificial Neural Network (ANN)**