Abstract

Image classification is the process of trying to classify all pixels in an image into a number of classes, where each class represents an entity with specific properties. Landscape image comes from remote sensing process. By doing classification in this remote sensing imagery (remote sensing results), it will produce a thematic map, where a pixel in the image can be determined landscape objects they represent, that objects such as settlements, vegetation, waters, and so forth.

One method that can be used to perform remote sensing image classification is with the Neuro Fuzzy Expert System. This method is combination of Neuron Network and Fuzzy System, where neuron network have ability for learning and fuzzy systems have the capability of reasoning based on rules in the knowledge base they have. By combining this two methods will produce much better method.

This final task will implementation Neuro Fuzzy Expert System to perform the classification of one of remote sensing imagery, satellite imagery where is downloaded from google maps.This final task analyze the combined data and parameter, and also analyze the existing knowledge base. This Classification process is devide into 3 main process, first is grouping the data by FCM, second is training process, and third is classification process and determine the accuracy of the results of classification by calculating the value of misclassification (error in the placement class.) From these, it was found that the value of misclassification achieved less than 15%. And also found, that difference knowledge base give effect to the accuracy of classification results, where the addition of an appropriate knowledge base (according to the characteristics of the data) can improve image classification results.

Keywords: *Classification, Remote Sensing Imagery, Neuro Fuzzy Expert System*