

INCREASING ACCURACY OF IMAGE CLASSIFICATION USING ARTIFICIAL NEURAL NETWORK

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Land cover classification is one of the important methods used for information extraction. An automated image analysis application can yield improvements in classification accuracy results. There are many approaches that have been used to perform classification with high accuracy results and one of the attractive techniques is by using Artificial Neural Network (ANN). This study covers in Johor and Landsat 5 TM satellite imagery was used to perform the classification. Seven land cover class features have been selected in this study. Aims of this study is to establish the network structure parameter in ANN such as number of hidden layer, learning rate, momentum and number of iteration and training sample size were tested find out their effect on the classification accuracy. Results of the study showed that the best training sample size for ANN is 20. After that, the value tested in network structure are selected randomly and it been set 5 different value for each parameter. Finding show that the best value for hidden layer parameter is 1 and learning rate parameter is 0.1 which show that are significant with classification accuracy in small value. In contrast, momentum parameter and number of iteration were significantly with classification accuracy in large value which is resulted in 0.95 for momentum and 1800 for number of iteration.

Keywords: Land Cover Classification, ANN, Training Site Sample, Network Structure Parameter