

BPN for Land Cover Classification by Using Remotely Sensed Data

王泰盛, 陳莉, 譚智宏, 葉惠中, 蔡祐竹

Civil Engineering & Engineering Informatics

Engineering

lichen@chu.edu.tw

Abstract

The artificial neural network (ANN) is a recently popular nonparametric approach for supervised classification. ANN has been extensively applied to perform classification of remotely sensed data in this paper because it has been shown to be able to map land cover more accurately than the widely used statistical classification techniques. This study presents a back-propagation neural network (BPN), which is applied to solving the land cover classification problem in Taiwan using remote sensing imagery. We investigated five land cover classes and clouds based on SPOT HRV spectral data in the case study. BPN processes the experimental results of a series of remotely sensed data. The generalization capacity of a trained BPN can approximate the experimental results of similar data. The results indicate that BPN provides a powerful tool for categorizing remote sensing data.

Keyword : artificial neural network; classification; remote sensing; SPOT HRV