ARTIFICIAL NEURAL NETWORKS FOR IMPROVEMENT OF CLASSIFICATION ACCURACY IN LANDSAT ETM+ IMAGES

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Remote sensing data are often used in land cover and land use applications. However, classes of interest are often imperfectly separable in the feature space provided by the spectral data. The application of Neural Network (NN) to the classification of satellite images is increasingly emerging. Without any assumption about the probabilistic model to be made, the networks are capable to forming highly non-linear decision boundaries in the feature space. Training has an important role in the NN. The objective of this paper is to develop an Artificial Neural Network (ANN) for classification of Landsat ETM+ images into various types of land-use, especially for rural areas where agriculture is important. We defined specific land-use classes including city, water, forest, Soil, and various types of agricultural field areas. The test area was an image from Karaj in Iran.