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### **Abstract**

The data from remote sensing have been used from so many years for image classification and its development algorithm, which can be applied to several different fields like forestry, educational purpose, management etc. In this paper, a classification method of a high resolution satellite image using neural network is proposed. First noisy bands were removed using dimensionality reduction technique. Minimum noise fraction (MNF) reduces the spatial dimension of hyperspectral image (HSI). Then, learning vector quantization (LVQ) based algorithm and some samples from groundtruth map are used to train the network for image classification and finally, accuracy is estimated. The main goal of this paper is to determine the

ability of artificial neural network system for classifying satellite image by algorithm based on LVQ.

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### Index Terms

Computer Science

Image Processing

**Keywords**

Hyper Spectral Image Minimum Noise Fraction (mnf) Remote Sensing Learning  
Vector Quantization

Neural Network

Svm (support Vector Machine)