Abstract

A comparative analysis on image classification is accomplished on scene image feature set by using various existing classifiers. The classification is performed on conventional feature set, hybrid feature set and selected hybrid feature set for classifying the war tanks from the natural scene images. The features are extracted in three ways; conventional feature extraction methods like gray level co-occurrence matrices features & statistical moment's features; hybrid feature extraction is the combination of color mean, GLCM properties and canny edge count; the proposed selected hybrid feature set. The extracted features are trained and tested with various classifiers like Artificial Neural Network (ANN) using feed forward back propagation algorithm, Support Vector Machines (SVM) using polynomial kernel with p=1, Bayes Net classifier using genetic search and J4.8 decision tree. The results show that classification efficiency of the selected hybrid feature extraction methods (i.e., the combination of GLCM & edge count) surpasses the conventional feature extraction methods in war scene classification problems.
Comparative Analysis on Scene Image Classification using Selected Hybrid Features


Index Terms

Computer Science

Pattern Recognition

Keywords

Hybrid features selected hybrid features classification algorithms