Abstract

In this paper, we propose an algorithmic model for automatic classification of flowers using KNN classifier. The proposed algorithmic model is based on textural features such as Gray level co-occurrence matrix and Gabor responses. A flower image is segmented using a threshold based method. The data set has different flower species with similar appearance (small inter class variations) across different classes and varying appearance (large intra class variations) within a class. Also, the images of flowers are of different pose with cluttered background under varying lighting conditions and climatic conditions. The flower images were
collected from World Wide Web in addition to the photographs taken up in a natural scene. Experimental Results are presented on a dataset of 1250 images consisting of 25 flower species. It is shown that relatively a good performance can be achieved, using KNN classifier algorithm. A qualitative comparative analysis of the proposed method with other well known existing flower classification methods is also presented.

Reference


Index Terms

Computer Science
Pattern Recognition
Key words

Flower segmentation
Gray Level Co-occurrence Matrix
Gabor Responses
Flower classification
K Nearest neighbor classifier