Abstract

This work presents a method for plant species identification using the images of flowers. It focuses on the stable features of flowers such as color, texture and shape. K-means clustering is used to extract the color features. Texture segmentation is done using texture filters. Edge detectors are used to trace the boundary of the image and hence the shape features. Color, texture and shape features are extracted from 400 images of flowers. Classification of plants into dry land plants and aquatic plants, the aquatic plant species into wet and marsh aquatic plants, wet aquatic plants into iridaceae and epilobium family and marsh aquatic plants into malvaceae and onagraceae family, the iridaceae family into babiana and crocus species, the family epilobium into canum and hirsutum, the family malvaceae into mallow and pavonia, the family onagraceae into fuschia and ludwigia species are done using Generalized Regression Neural Network (GRNN) and Adaptive Neural Fuzzy Inference System (ANFIS) classifiers.


- Chuan-Min Zhai and Ji-Xiang Du, "Applying Extreme Learning Machine to Plant Species Identification"; Proceedings of the IEEE International Conference on Information
Species Classification of Aquatic Plants using GRNN and ANFIS

- Chih-Wei Hsu, Chih-Chung Chang, and Chih-Jen Lin, &quot;A Practical Guide to Support Vector Classification&quot; Department of Computer Science, National Taiwan University, Taipei, April 2010.

Index Terms

Computer Science       Pattern Recognition

Keywords
K-means Clustering  Texture Filters  Cross Fold Validation  Pattern Recognition Tools