Abstract

Foreign fibres in cotton have seriously affected the quality of cotton goods. The classification and identification of foreign fibres in cotton is the basis of automated inspection of foreign cotton fiber. Application of Support Vector Machine (SVM) for analysis of foreign fibres in cotton. One of the advantages of SVM is that, with limited training data, it can generate results similar or better than other methods. The SVM algorithm is used for automated object detection and characterization. Specifically, the SVM is applied in its basic nature as a binary classifier where it classifies two different folders one having the cotton image and second one contains the supervised images. The algorithm aims at effectively detecting an object from its background with the minimum training data. The synthetic image containing noises is used for algorithm testing. Furthermore, it is implemented to perform remote sensing image analysis such as identification of Island vegetation, water body, and oil spill from the satellite imagery. It is indicated that SVM provides the fast and accurate analysis with the acceptable result. Furthermore the introduction of CNN has been apply to the proposed technique to this presentation offers a new method for using templates that match the templates of Convolution
Foreign Fiber Detection in Cotton using HSI Approach for Industrial Automation

Neural Network. The CNNs are running simultaneously to train template images. All Information about image template is send to neural network that has been convoluted the image with saved template in very fast manner. It is accuracy while scanning an image and convolutes the pixel with pure image pixel and finds the exact difference in between them. The test picture is a cotton production image containing the foreign image and find out the impurities in running a production line of cotton with high accuracy. This thesis has a complete demonstration of detection system for the foreign fibers in raw cotton. The accuracy of the result is evaluated by the regression analysis of the outcomes like the time of simulation and the size of pictures in pixel speared over the horizontal and vertical area. The results of the proposed analysis have shown that the time is unpredictable for the given set of images. The logistic regression has exponential nature that suggests that the simulation time is drastically increases as the area of cotton size increases. The accuracy provide by proposed technique is very near to hundred percent.

References


Index Terms

Computer Science  
Image Processing

Keywords