

Date fruit sorting using appearance-based information and neural network classifier

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Abstract

This paper presents a new two-step system for automatically sorting date fruit in four categories which are big 'Sukkari' dates, defective big 'Sukkari' dates, small 'Sukkari' dates and 'Khalas' dates. In the first step, we used the Principal Component Analysis tool for feature extraction and data dimensionality reduction. Then, the obtained features were injected in a modified Back-Propagation-based Neural Network to be classified. Four tests were made upon a locally made database of date images, and obtained results varied between 96 and 100% accuracy.