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### Abstract

A flexible grading system for pot plants is described. The system consists of a colour camera, an image processing system and specially developed software. It can be applied to several types of pot plants because of its implementation of learning techniques. Experiments are described for classification of a flowered plant and a cactus plant. Statistical discriminant analysis and a neural network (NN) classifier are used as techniques for pattern recognition. NNs gave for less complex applications at least equal results as linear discriminant analysis (LDA) or quadratic discriminant analysis (QDA). For more complex applications the NN classifier showed better results. Complexity for the described classification tasks can be associated with the distribution and shape of groups in the multi-dimensional feature space.



## Keywords

Image processing; Computer vision; Pattern recognition; Discriminant analysis; Neural network

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