

Jitsaran Seekuka 2014: Features for Classifying Rice Grains by Image Analysis.
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Rice is the most important food for Thai and one of the most important export product from Thailand. Quality of rice grain is a major factor affecting the quality of rice; however, adulteration of seeds is difficult to detect by novice farmer. In this research, we proposed a technique to classifying six rice grains by image processing. Six grain types popularly planted in the same cultivating areas of Thailand are taken into consideration. Those are KhaoDawkMali105, RD6, Pathumthani 1, Phitsanulok 2, Suphanburi 1 and Chainat 1. Samples of grains are collected from Department of Rice, Thailand. Image features extracted by our method from 120 images of each grain (totally 720 grain images) are used to train and test two learning machines, Support Vector Machine (SVM) and Naïve Bayes (NB). The experimental results show that angles of “head” and “awn” of rice grain are very effective to those classifiers. We also found that classification accuracies from Naïve Bayes and SVM are 83.01% and 99.49% respectively. A combination of head and awn of rice grain features and SVM classifier is very effective for classifying these rice grains.

Student's signature

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