

IDENTIFICATION OF RICE SEED IMAGES BASED ON MORPHOLOGY USING THE NAÏVE BAYES CLASSIFIER METHOD

MUHAMAD HAFIDZ GHIFARY

*Informatics Study Program, Faculty of Science & Technology
University of Technology Yogyakarta
Jl. Ringroad Utara Jombor Sleman Yogyakarta
E-mail : mhafidzghifary007@gmail.com*

ABSTRACT

Rice seeds are one of the main elements in rice cultivation. The large number of rice seed varieties with similar morphology makes identifying the type of rice seed an activity that is not easy to do. Classification using a machine learning algorithm is one method that can be used to identify rice seed varieties. This research will implement one of the machine learning classification algorithms, namely the Naïve Bayes classifier, to identify images of rice seeds. Identification of seed varieties is carried out based on the morphological features of the seeds. Research stages starting from preprocessing, feature extraction, and parameter value experiments were carried out to find the model with the best performance. The dataset used is in the form of seed morphological feature values, namely aspect ratio, solidity, perimeter, area, extent, round, circularity and equivalent diameter. Gaussian naïve Bayes produces a model with an accuracy performance of 75%. The system can implement the naïve Bayes classifier method to identify types of rice seeds, but is still unable to identify the seeds correctly for most of the seeds tested.

Keywords: Rice seeds, Morphology, Machine learning, Naïve Bayes classifier, Gaussian naïve Bayes.