

ABSTRACT

The problem that often occurs in Indonesia is the poor quality of rice. The poor quality rice, which turned out to be from old stock or last year's inventory in the warehouse, was caused by a lack of knowledge from the warehouse regarding the quality of rice and the shelf life of rice. Therefore, an application based on the electronic nose dataset was developed for quality classification and prediction of shelf life of rice. With the help of machine learning, this application will be able to predict the quality of rice and the shelf life of rice. The machine learning algorithm used is stochastic gradient descent. Stochastic gradient descent is a simple and efficient approach to discriminatory learning, the SGD method is an iterative optimization algorithm to find the minimum function point that can be derived by making guessing errors and then correcting along with iterations. This application has been evaluated to get a classification score (1.00), for a regression score of R^2 (0.7190) and RMSE (3.7375).

Key Word: Machine Learning, Quality, Prediction, Rice, Stochastic Gradient Descent.