

ABSTRACT

Rice is a very important food commodity for Indonesia. Its existence is quite abundant and easily accessible to the people of Indonesia, with these conditions a surplus of rice is created as food reserves. In previous studies related to the shelf life of rice, it has been shown that to determine the shelf life of rice conventionally using the direct method. Where the rice sample is taken and then checked for the smell of the rice to determine the quality of the rice and how long the shelf life of the rice is. The proposed method for classifying quality and predicting shelf life of rice is based on electronic nose dataset with support vector machine algorithm. Application development using SDLC Prototyping with the stages of gathering requirements, building prototyping, evaluating prototyping, coding the system, testing the system, and evaluating the system. The programming language used is python as a machine learning model development and PHP to display the interface and utilize MySQL as a data storage, program testing is carried out using Black Box Testing to ensure that the program's functionality can be used properly. From the experimental results, it produces a value that is quite relevant between the classification and regression values. The results of the classification of rice quality get an accuracy score of 0.6669, while the regression results get R2 0.4403 and RMSE 5.2301.

Keywords: Rice, Machine Learning, Support Vector Machine, Electronic Nose Dataset