

ABSTRACT

Rice is a staple cuisine for people in Asia, particularly in Indonesia. Rice reserves that are optimal provide sufficient dietary needs. The fundamental issue is that rice quality has deteriorated in recent years, resulting in losses. The traditional method for determining rice quality is to utilize human senses to detect the aroma of rice and examine the texture of the rice. In this case, this application is built to classify quality and predict shelf life using an electronic nose-based dataset by utilizing the capabilities of the Naïve Bayes Classifier and Bayesian Ridge algorithms. The classification uses 4 naïve Bayes models, namely Gaussian Naive Bayes with 82% accuracy, Multinomial Naive Bayes with 97% accuracy, Complement Naive Bayes with 98% accuracy, and Bernoulli Naive Bayes with 54% accuracy. Meanwhile, Bayesian Ridge obtained a Root Mean Square Error (RMSE) of 3.58 and an R-Squared of 0.72. This classification model will be displayed in a web form that can predict new data with predetermined attributes. It is hoped that this research can help several stakeholder that have an influence on rice production in decision making.

Keywords : Rice, Naïve Bayes, Gaussian, Multinomial, Complement, Bernoulli, Bayesian Ridge, Classification, Regression.