

ABSTRACT

Seafood is food that comes from processed plants and animals from the ocean. Seafood is known to have high levels of protein and is rich in omega-3, which makes it have many health benefits, such as maintaining heart health and gynecological health. To measure the freshness and safety of seafood and meat products, the official standard of testing is total viable count (TVC). The laboratory test process takes between 24 and 72 hours, and the cost per test is very high. The proposed method to classify and regression to predict seafood quality and microbial population using support vector machine algorithm based on electronic nose dataset. For the process of building this application using the SDLC Prototyping method with the stages of gathering requirements, building prototyping, evaluating prototyping, system coding, system testing, system evaluation and system use. The programming language used is python as the construction of machine learning models and PHP for interface display and using MySQL for data storage, for the system testing process is carried out using Black Box Testing to ensure system functionality can be used properly. The results of the experiments that have been carried out, produce comparable values between regression and classification values. The results of the classification process to detect seafood quality get an accuracy score of 0.98156, while for the regression process, the RMSE value = 0.012, and R2 = 0.981.

Keywords: Seafood, E-Nose Dataset, SVR Algorithm