
Abstract

In aeroponics, an IoT-based monitoring system that can monitor the growth of lettuce is needed because the delay in harvesting lettuce can cause the lettuce to taste bitter when consumed and in addition, if the lettuce is harvested at a too young age, the dry weight of the plant is not optimal. However, monitoring can only be done on parameters that can be measured by sensors so a regression method such as SVR needs to be trained to predict the lettuce growth. The purpose of this study is to analyze the performance of SVR in the lettuce growth prediction process. The basic features for predicting are light intensity, air temperature, air humidity, and water temperature. Additional features are light accumulation and day of growth. Preprocessing steps are implemented to improve the performance of the SVR model which are feature scaling using standard scaling and feature selection using Pearson correlation. The test results show that the optimized R-Squared value for the performance of SVR model in predicting growth targets leaf number, fresh weight, leaf width, and leaf length are 0.98 each.

Keywords: aeroponik, internet of things, support vector regression, selada, pearson correlation, feature scaling, R-Squared.
