عنوان مقاله:

Ensemble of M5 Model Tree Based Modelling of Sodium Adsorption Ratio

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خلاصه مقاله:

This work reports the results of four ensemble approaches with the M5 model tree as the base regression model to anticipate Sodium Adsorption Ratio (SAR). Ensemble methods that combine the output of multiple regression models have been found to be more accurate than any of the individual models making up the ensemble. In this study additive boosting, bagging, rotation forest and random subspace methods are used. The dataset, which consisted of 488 samples with nine input parameters were obtained from the Barandoozchay River in West Azerbaijan province, Iran. Three evaluation criteria: correlation coefficient, root mean square error and mean absolute error were used to judge the accuracy of different ensemble models. In addition to the use of M5 model tree to predict the SAR values, a wrapper-based variable selection approach using a M5 model tree as the learning algorithm and a genetic algorithm, was also used to select useful input variables. The encouraging performance motivates the use of this technique to .predict SAR values

کلمات کلیدی:

Sodium Adsorption Ratio (SAR), data mining, M5 model tree, Genetic Algorithm, Wrapper Approach