Efficient Water Quality Analysis and Prediction using Machine Learning

PURPOSE

The purpose of this research is to develop a reliable method for forecasting water quality with a proposed model as precisely as necessary. The following are the suitable approaches:

- In this study, missing data is handled using the Random Forest approach, and the dataset is splitting using the min-max normalization technique.
- Describe and demonstrate the dataset's significant distribution and feature correlation.
- Based on prior research, select the most important features for WQC and categorize three distinct types of water quality based on WQI rate.
- SVM, NN, MLR, BTM, and RF algorithms are used to optimize model performance.
- The proposed model approaches: develop a software application that uses the MLR algorithm to predict water quality in real time for these three types of WQ.