Claims

1. A data processing method applicable for a sewage treatment device with on-line monitoring function, wherein the sewage treatment device comprises:

a plurality of wireless sensors, wherein the wireless sensors are used for collecting a preset type of data information of sewage and transmitting the preset type of data information to a remote monitoring terminal through a wireless transmission technology;

a data analysis module, wherein the data analysis module is used for converting the preset type of data information to acquire parsed data information and processing the parsed data information to eliminate parsed redundant data;

a sewage monitoring module, wherein the sewage monitoring module is used for monitoring data of sewage, and the wireless sensors are arranged in the sewage monitoring module;

the sewage monitoring module comprises a treatment tank and an adjustment module, the bottom of the treatment tank is provided with an aerator pipe, and the aerator pipe is used for supplying oxygen;

the operation of converting the preset type of data information to acquire the parsed data information specifically comprises:

acquiring relevant feature information of sewage through big data, and describing the feature information according to the fuzzy theory to generate a fuzzy semantic set;

constructing a corresponding membership function according to the fuzzy semantic set, constructing a semantic rule base, and inputting the membership function into the semantic rule base;

inputting the preset type of data into the semantic rule base to acquire the membership function of the current preset type of data, and generating parsed data information according to the membership function of the current preset type of data;

the operation of processing the parsed data information also comprises the following steps:

calculating correlation information entropy of the fuzzy semantic set through correlation information entropy metrics to obtain the correlation information entropy, and judging whether the correlation information entropy is the preset correlation information entropy;

if the correlation information entropy is the preset correlation information entropy, performing sequential search on the current fuzzy semantic set by a feature ordering

Comprehensively Measure Feature Selection (CMFS) algorithm to select one piece of feature information from the fuzzy semantic set;

performing extended ordering on the fuzzy semantic set based on the feature information to obtain an extended set, and acquiring redundant information in the fuzzy semantic set according to the extended set;

readjusting the fuzzy semantic set according to the redundant information to generate a final fuzzy semantic set;

after the parsed data information is processed, the operation specifically comprises the following steps:

acquiring feature data information according to the parsed data information, and judging whether the feature data information has data information of exceptions;

if the feature data information has data information of exceptions, acquiring a monitoring node where the data information of exceptions exists, and acquiring the operating wireless sensors in the monitoring node according to the monitoring node;

acquiring feature data information corresponding to the operating wireless sensors in the monitoring node, and counting the frequency of the corresponding feature data information;

acquiring the data information with the maximum frequency as the final parsed data information, replacing the data information of exceptions with the final parsed data information to generate replaced data information, and outputting the replaced data information;

the operation of judging whether the feature data information has data information of exceptions specifically comprises the following steps:

constructing an exception identification model based on a neural network, dividing pre-trained feature data information into a test set and a training set, inputting the training set into the exception identification model for training, and adjusting the parameters of the exception identification model;

when the parameters of the exception identification model meet the requirements of the preset parameters, using the test set to test the exception identification model, and if the test result of the exception identification model meets the preset conditions, obtaining the trained exception identification model;

inputting the feature data information into the exception identification model to obtain an identification result, and judging whether the identification result is greater than the preset identification result;

if the identification result is greater than the preset identification result, outputting the feature data information as the data information of exceptions;

also comprising the following steps:

acquiring the data information collected by the current wireless sensor, and judging whether the data information collected by the current wireless sensor has a preset abnormal phenomenon, wherein the abnormal phenomenon is abnormal information that the wireless sensor wrongly sends data;

if the abnormal data information collected by the current wireless sensor has a preset abnormal phenomenon, acquiring the data information acquired by the current wireless sensor within the preset time to generate multiple pieces of data information;

acquiring the data with the highest frequency collected by the wireless sensors in the current monitoring node, calculating a threshold of deviation between the multiple pieces of data information and the data with the highest frequency collected by the wireless sensors in the current monitoring node, and judging whether the threshold of deviation is greater than a preset threshold of deviation;

if the threshold of deviation is greater than the preset threshold of deviation, using the data information with the threshold of deviation greater than the preset threshold of deviation as redundant data, and eliminating the redundant data.

2. The data processing method for a sewage treatment device with on-line monitoring function according to claim 1, wherein the adjustment module comprises a supporting top plate, the lower surface of the supporting top plate is provided with a plurality of telescopic rods which are sheathed with a plurality of springs, the other end of each telescopic rod is connected with a flexible push plate, the flexible push plate is provided with a screw rod, the other end of the screw rod is provided with a fan, the fan is arranged in the supporting top plate, and the supporting top plate is arranged in the treatment tank.

3. The data processing method for a sewage treatment device with on-line monitoring function according to claim 1, wherein the treatment tank is provided with a water inlet pipe and a water outlet pipe, the aerator pipe is arranged at the bottom of the treatment tank and connected with an oxygen supply pump, a plurality of oxygen concentration sensors are arranged in the treatment tank, the oxygen concentration sensors are used for acquiring the oxygen concentration in the treatment tank, and when the oxygen concentration is lower than the preset oxygen concentration, the operation of the oxygen supply pump is controlled by the remote monitoring terminal.