

Fuzzy logic predictive method for indoor environment parametric dataset

ABSTRACT

An environment becomes polluted and contaminated because of excessive construction which taking places in several urban area and this affects the overall air quality index. Indoor air quality index seems much poor than outdoor air quality index because contaminated gases trapped within indoor environment. This research implements the fuzzy logic method to predict ambient temperature of indoor office environment. The temperature data collected previously used as default point of reference for predicting the temperature of the next day. Temperature prediction is necessary to maintain good health from contiguous disease. The research prototype uses the IEEE 802.14.5 wireless device to send temperature data to remote base station. The standard deviation and mean show the correlation between all the collected data. The temperature data is harvested from three different zones in an office for five consecutive days to predict the temperature. As a result, fuzzy logic predicts expectedly for a small dataset but alternative approach needed for a larger dataset, preferably machine learning will be a good choice in cloud service for predicting indoor environment.

Keyword: Fuzzy logic method; Temperature prediction; Indoor office environment