Season -2

Sponsored Thesis Project Competition on

"Re-imagining Urban Rivers"

Water Quality Monitoring System Using Machine Learning Technique

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Introduction

Water plays a vital role in the daily life of human beings and other natural phenomena. Drinking water facilities are facing several problems such as

- Due to the limited drinking water resources
- Overuse and wastage of water
- Growing population
- The excessive use of sea resources for salt extraction

The high use of chemicals in manufacturing, construction, and fertilizers in agriculture are directly leaving the pollutants into the nearby water bodies. About 80% of diseases in a developing country are caused by the consumption of polluted water.

Background

At present water quality assessment involve the collection of random samples of water at various locations weekly or monthly and analyzing them in the laboratories.

This approach is not much efficient because of

- long-time consumption,
- Water samples were taken from only a few areas.

In order to overcome the above drawbacks, we need a real-time water quality monitoring system

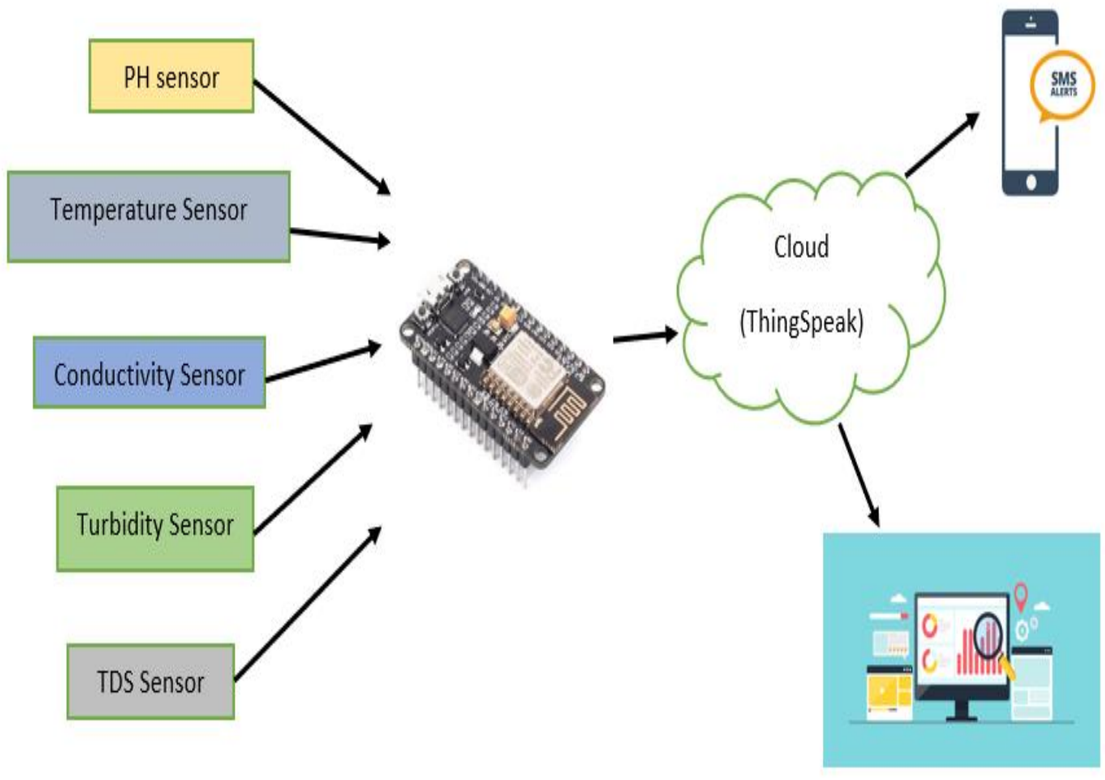
Analysis

- Quality of water can be predicted using its own properties.
- In this model, we are using pH, turbidity, conductivity, temperature, and TDS as attributes.
- Using these properties we are going to build a prediction model, Through which we can forecast the water quality in the near future.

Key Issues

- Automatic monitoring and alerting will not be supported by the existing system.
- By tracking the water quality indicators using the sensors set up near the river basin, this system enables the end users to be automatically alerted via SMS.
- This system offers analytics and future forecasting utilizing historical water parameter values and machine learning techniques.

Proposals



Way Forward

- In the future we use IoT concepts for water quality monitoring.
- More the parameters, Merrier the results.
- Increase the attributes by using multiple sensors.
- System can be developed for mobile Applications.
- More forecasting methods can be implemented.