

Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID37730
Project Name	Project - Efficient Water Quality Analysis And Prediction Using Machine Learning.
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	The deteriorating quality of natural water resources like lakes, streams and estuaries, is one of the direst and most worrisome issues faced by humanity. The effects of un-clean water are far-reaching, impacting every aspect of life. Therefore, management of water resources is very crucial in order to optimize the quality of water. The effects of water contamination can be tackled efficiently if data is analyzed and water quality is predicted beforehand. This issue has been addressed in many previous researches, however, more work needs to be done in terms of effectiveness, reliability, accuracy as well as usability of the current water quality management methodologies.
2.	Idea / Solution description	The Data to develop a water quality prediction model with the help of water quality factors using Artificial Neural Network (ANN) and time-series analysis.
3.	Novelty / Uniqueness	The data includes the measurements of 4 parameters which affect and influence water quality. For the purpose of evaluating the performance of model, the performance evaluation measures used are Mean-Squared Error (MSE), Root Mean-Squared Error (RMSE) and Regression Analysis.
4.	Social Impact / Customer Satisfaction	Surface waters and aquifers can be contaminated by various chemicals, microbes. Disinfection of drinking water has dramatically reduced the prevalence of waterborne diseases by the evaluating the data
5.	Business Model (Revenue Model)	Machine learning can provide solutions for water pollution control, water quality improvement and watershed ecosystem security management

6.	Scalability of the Solution	The solution can be used almost various source of water quality factors , watersheds and so on.Thus it is scalable for all types of prediction.
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