PROJECT DESIGN PHASE - 1

PROPOSED SOLUTION

Date	09 october 2022
Team ID	PNT2022TMID25978
Project Name	Efficient Water Quality Analysis & Prediction using Machine Learning
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	The quality of water is a major concern for people living in urban areas. However, predicting the urban water quality is a challenging task since the water quality varies in urban spaces non-linearly and depends on multiple factors, such as meteorology, water usage patterns, and land uses. Water quality is currently estimated through expensive and time-consuming labs which require sample collection, and transport of these samples to the lab collected from one of the water sources and it takes a considerable amount of time for the calculation of results which is quite ineffective if the water polluted with waste that causes diseases.
2.	Idea / Solution description	To solve the above problem, we may use machine learning algorithms to predict the quality of water by considering all water quality standard indicators, and to increase accuracy we may use ensemble techniques and PCA to reduce complexity in learning
3.	Novelty / Uniqueness	To solve the above problem, we may use machine learning algorithms to predict the quality of water by considering all water quality standard indicators, and to increase accuracy we may use ensemble techniques and PCA to reduce complexity in learning

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4.	Social Impact / Customer Satisfaction	The quality of water serves as a powerful environmental determinant and a foundation for the prevention and control of waterborne diseases. so this project aims at building a Machine Learning (ML) model to Predict Water Quality by considering all water quality standard indicators. Thus, it helps people to ensure the standard of health concerning drinking water.
5.	Business Model (Revenue Model)	Our model is capable help branded water bottle companies ensure water quality and decides whether further purification of water is needed or not.
6.	Scalability of the Solution	It is expected that our model helps in getting all require aspects of water