

Project Design Phase-I
Proposed Solution Template

Date	21 November 2023
Team ID	Team-592258
Project Name	RIVER WATER QUALITY FORECASTING
Maximum Marks	2 Marks

Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	It involves predicting water quality parameters such as pollutants levels at different points along a river over a specific period of time. The main goal is to develop a model that can accurately forecast these parameters based on various environmental factors, allowing for proactive management and mitigation of water pollution.
2.	Idea / Solution description	It includes executing a prescient model to gauge future water quality boundaries. This ordinarily incorporates gathering authentic water quality information, using AI calculations to recognize examples and patterns, and afterward applying the prepared model to estimate future water quality levels. Also, constant information mix, sensor organizations, and meteorological data might improve the exactness of forecasts.
3.	Novelty / Uniqueness	Implementing AI in river water quality forecasting introduces a novel approach by leveraging machine learning algorithms to analyze various data sources. This includes real-time sensor data, satellite imagery, and historical trends to predict water quality parameters. This enhances accuracy, enables proactive decision-making, and contributes to more effective water resource management.
4.	Social Impact / Customer Satisfaction	<p>A stream water quality estimating task can have huge social effect by giving early admonitions about water defilement. This helps networks:</p> <p>1.Public Health: Further develop wellbeing results by forestalling waterborne sicknesses through ideal alarms and empowering proactive measures.</p> <p>2.Admittance to Clean Water: Upgrade admittance to clean water by permitting specialists to oversee assets all the more productively and moderate contamination gambles.</p> <p>3.Natural Awareness: Bring issues to light about the significance of stream biological systems, encouraging a feeling of obligation for natural preservation.</p> <p>4. Work Protection: Defend livelihoods subject to waterways, like fishing and horticulture, by</p>

		<p>forestalling pollution occasions that could hurt these ventures.</p> <p>5.Social Equity: Guarantee that weak networks are not excessively impacted by water quality issues, advancing social value in natural assurance.</p>
5.	Business Model (Revenue Model)	<p>Consulting Services: Provide consulting services to help organizations interpret and act upon the forecasted data to improve water management strategies.</p> <p>Data Licensing: License the forecasted data to third-party organizations, researchers, or technology companies for further analysis and application development.</p> <p>Government Contracts: Pursue contracts with government agencies responsible for water resource management to provide ongoing forecasting services.</p> <p>Education and Training: Develop training programs or workshops to educate professionals in the water management sector on leveraging AI for improved decision-making.</p> <p>Custom Solutions: Offer customized water quality forecasting solutions tailored to the specific needs of industries such as agriculture, aquaculture, or energy production.</p> <p>Grant Funding: Seek grants from environmental or research foundations to support the development and implementation of the AI-driven water quality forecasting project.</p> <p>Data Analytics Services: Provide additional data analytics services beyond forecasting, helping clients derive actionable insights from historical and real-time water quality data.</p>
6.	Scalability of the Solution	<p>The versatility of a stream water quality estimating project utilizing man-made intelligence relies upon factors like the size of the dataset, intricacy of the man-made intelligence model, and computational assets. Executing productive calculations and resemble handling can improve adaptability, permitting the framework to deal with bigger datasets and expanded determining requests. Customary advancement and taking into account appropriated figuring choices can additionally uphold adaptability in dealing with assorted topographical areas and changing information sources.</p>