Efficient Water Quality Analysis and Prediction Using Machine Learning

Introduction

Access to safe drinking-water is essential to health, a basic human right and a component of effective policy for health protection. This is important as a health and development issue at a national, regional and local level. In some regions, it has been shown that investments in water supply and sanitation can yield a net economic benefit, since the reductions in adverse health effects and health care costs outweigh the costs of undertaking the interventions.

Literature survey

Here, we will take a look at all the previous solutions, attempts and implementations to the Water quality analysis and prediction using Machine Learning or anything that is atleast vaguely related to it.

Existing Solutions

Water makes up about 70% of the earth's surface and is one of the most important sources vital to sustaining life. Rapid urbanization and industrialization have led to a deterioration of water quality at an alarming rate, resulting in harrowing diseases.

Water quality has been conventionally estimated through expensive and time-consuming lab and statistical analyses, which render the contemporary notion of real-time monitoring moot. The alarming consequences of poor water quality necessitate an alternative method, which is quicker and inexpensive. With this motivation, this research explores a series of supervised machine learning algorithms to estimate the water quality index (WQI), which is a singular index to describe the general quality of water, and the water quality class (WQC), which is a distinctive class defined on the basis of the WQI.

S.No	**Paper Title**	**Author(s)**	**Month /Year**	**Method/Implementation technique(s)**	**Resource Link**
1	"Flood prediction using machine learning models: Literature review,"	A. Mosavi, P. Ozturk, and K.-W. Chau,	October 2018	Water quality prediction	https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9497111
2	Surface Water Pollution Detection using Internet of Things	Uferah Shafi	October 2018	Polluted Water identification using IOT	https://www.researchgate.net/publication/329316037_Surface_Water_Pollution_Detection_using_Internet_of_Things
3	Efficient Prediction of Water Quality Index (WQI) Using Machine Learning Algorithms	Md. Mahedi Hassan	December 2021	Analysis of water quality by WQI	https://www.atlantis-press.com/journals/hcis/125965714/view