

LITERATURE SURVEY ON THE SELECTED PROJECT AND INFORMATION GATHERING

S.NO	TITLE	AUTHORS	DESCRIPTION
1.	EcientWater Quality Prediction Using Supervised Machine Learning	Umair Ahmed , Rafia Mumtaz , Hirra Anwar , Asad A. Shah , Rabia Irfan and José García-Nieto	<p>This research explored an alternative method of machine learning to predict water quality using minimal and easily available water quality parameters. The data used to conduct the study were acquired from PCRWR and contained 663 samples from 12 different sources of Rawal Lake, Pakistan. A set of representative supervised machine learning algorithms were employed to estimate WQI. This showed that polynomial regression with a degree of 2, and gradient boosting, with a learning rate of 0.1, outperformed other regression algorithms by predicting WQI most eciently, while MLP with a configuration of (3, 7) outperformed other</p>

			classification algorithms by classifying WQC most recently.
2.	A review of the application of machine learning in water quality evaluation	Mengyuan Zhu, Jiawei Wang, Xiao Yang, Yu Zhang, Linyu Zhang, Hongqiang Ren, Bing Wu, Lin Ye	More advanced sensors, including soft sensors, should be developed and applied in water quality monitoring to collect sufficiently accurate data to facilitate the application of machine learning approaches. The feasibility and reliability of the algorithms should be improved, and more universal algorithms and models should be developed according to the water treatment and management requirements. Interdisciplinary talent with knowledge in different fields should be trained to develop more advanced machine learning techniques and apply them in the engineering process.

3.	Water quality prediction using machine learning methods	Amir Hamzeh, Haghiabi, Ali Heidar Nasrolahi, Abbas Parssai.	<p>This study investigates the performance of artificial intelligence techniques including artificial neural network (ANN), group method of data handling (GMDH) and support vector machine (SVM) for predicting water quality components of Tireh River located in the southwest of Iran. To develop the ANN and SVM, different types of transfer and kernel functions were tested, respectively. Reviewing the results of ANN and SVM indicated that both models have suitable performance for predicting water quality components.</p>
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4.	International Research Journal of Modernization in Engineering Technology and Science	Sai Sreeja Kurra, Sambangi Geethika Naidu, Sravani Chowdala, Sree Chithra Yellanki, Dr. B. Esther Sunanda.	To analyze overall water quality in terms of potability, ten water quality factors were used for each data set. pH, Hardness, Solids, Chloramines, Sulfate, Conductivity, Organic carbon, Trihalomethanes, Turbidity, and Potability were among the metrics studied. The choice of parameters was influenced by the fact that they are all commonly monitored critical parameters with well-defined water quality standards. The predictive modeling described in this paper, on the other hand, is adaptable enough to function with any number of parameters.
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