Problem Statement

To calculate the Water Quality Index of the water and predicting whether the waterways are healthy and its in sufficient quality to meet their designated uses such as drinking, farming, washing. The Water Quality is calculated by the turbidity, nutrients, dissolved salts, dissolved oxygen and pH. As water is recycled through the earth, it picks up many things along its path. Water quality will vary from place to place, with the seasons, and with the various kinds of rock and soil it moves through.

S. No	Parameter	Description
1.	Who does the problem affect?	Many people get suffer due to poor quality in water. Poor water quality causes diseases like Cholera, hepatitis, typhoid, gastroenteritis in humans. Polluted water also affects the aquatic life and reduces its reproductive ability.
2.	What are the boundaries of the problem?	The water quality must analyze periodically. Because the water quality can be easily changed with nutrients, bacteria and dissolved oxygen that are being added on. So we have to test the quality of water with period of time.
3.	What is the issue?	The surface water and groundwater are intimately connected and are constantly interacting. This makes the quality and quantity of water change in response to

		change in climate, land use and management practices.
4.	When does the issue occurs?	This issue occurs when the industry releases their toxic industrial water into surface water or rivers. The people polluting the water by throwing the non-biodegradable wastes into the streams.
5.	Where is the issue occurring?	▪ Many industries such as dye industry, paramedical industry, textile industry are disposing their untreated wastage into the rivers. ▪ The oil spill in water bodies due to transportation. ▪ Discharge of sewage water ▪ Local land use practices. for example, Pesticides
6.	Why is it important that we fix the problem?	By fixing these problems, we increase the quality of people lives and economic growth. Prevention of the waterborne diseases. Based on the water quality we can use the water accordingly.
7.	Idea	With the Support Vector Machines (SVM), Neural Networks (NN), Deep Neural Networks (Deep NN) and k Nearest Neighbours (kNN), we estimate the water quality using turbidity, D.O, conductivity, nitrate content, pH and temperature.