

INNOVATION

SMART WATER FOUNTAIN

1. Data Collection and Sensors:

Install various sensors to monitor the health and performance of critical components. For instance, you could use vibration sensors to detect irregularities in the pump or motor, water level sensors to monitor water levels, and temperature sensors to track overheating.

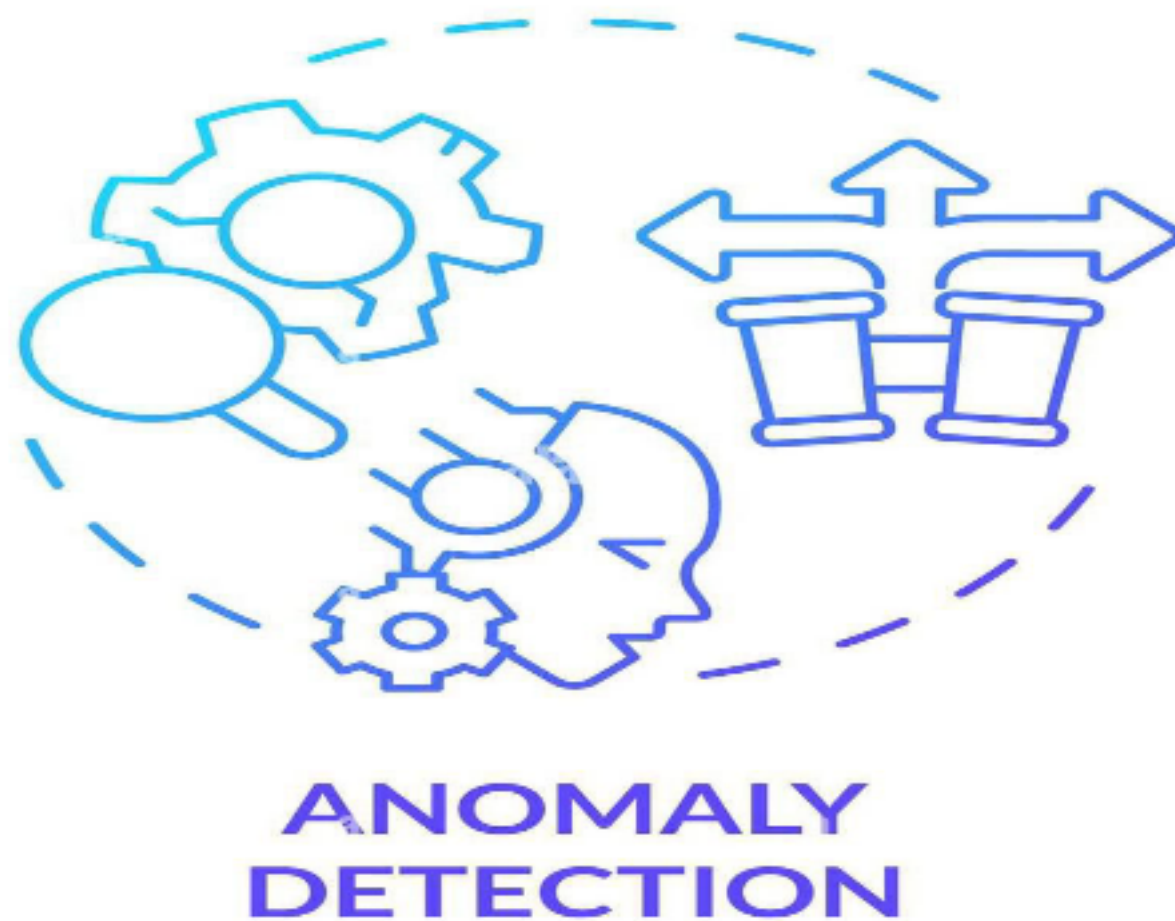
2. Data Processing and Analysis:

Continuously collect data from these sensors and stream it to a cloud-based platform. Implement machine learning algorithms that analyse this data to identify patterns, anomalies, or signs of potential malfunctions.



3. Anomaly Detection:

Utilize machine learning models to detect anomalies or deviations from normal operating conditions. For example,



unexpected vibrations, sudden changes in water flow, or abnormal power consumption could indicate an issue.

4. Predictive Models:

Develop predictive models that use historical data and real-time sensor readings to forecast when specific components might fail or require maintenance. These models can estimate the remaining useful life of critical parts, helping plan maintenance activities proactively.

5. Alerts and Notifications:

Configure the system to generate alerts or notifications when potential issues are detected. These alerts can be



sent to maintenance personnel or administrators, enabling timely intervention to prevent a malfunction.

6. Maintenance Scheduling:

Integrate the predictive maintenance insights into a scheduling system. Based on the predictions, schedule maintenance activities such as part replacements, cleaning, or calibrations to ensure the fountain's optimal performance.



7. Feedback Loop and Model Refinement:

Implement a feedback loop that allows the system to learn from maintenance actions taken. Update the machine

learning models based on the outcomes of the maintenance to improve accuracy and prediction capabilities.

By employing predictive maintenance algorithms, you can significantly reduce downtime, increase the lifespan of the fountain components, and optimize maintenance costs.

This proactive approach ensures that the smart water fountain operates reliably and efficiently, providing an enhanced experience to users.