Assignment 2.1

Develop a Flask-based UI to use the ML/DL model developed in the Assignment – 1. Upload your all the resources on GitHub.

NAME – CHAITANYA GAUR
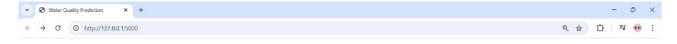**SAP ID – 500122644**
ROLL NO – R2142230331
BATCH – 11

TOPIC – SDG 14 LIFE BELOW WATER
Water Quality Prediction Using Machine Learning

Objective of Assignment 2

Objective: Enhance the machine learning model and improve the functionality of the Flask application.

Model Improvement: Refining the model through hyperparameter tuning, feature selection, and potentially using more complex algorithms.

Flask Application Enhancement: Developing a more user-friendly, efficient web application for water quality prediction.

Water Quality Prediction

Temperature (°C):

436

pH Level:

63

Nitrate Level (mg/L):

634

Dissolved Oxygen (mg/L):

54

Salinity (ppt):

64

Predict

Prediction Result

Your predicted water quality is: {{ prediction }}

Go Back

Water Quality Prediction

Temperature (°C):

pH Level:

Nitrate Level (mg/L):

Dissolved Oxygen (mg/L):

Salinity (ppt):

Predict

```python
from flask import Flask, render_template, request
import numpy as np
import joblib

app = Flask(__name__)

# Load the trained model and scaler
try:
    model = joblib.load('best_model.sav')  # Correct model file
    scaler = joblib.load('scaler.joblib')  # Ensure the scaler is also loaded
    print("Model and Scaler loaded successfully!")
except Exception as e:
    print(f"Error loading model or scaler: {e}")

@app.route('/')
def home():
    return render_template('index.html')

@app.route('/result', methods=['POST'])
def result():
    try:
        # Retrieve form inputs and convert to float
        temperature = float(request.form['temperature'])
        ph = float(request.form['ph'])
        nitrate = float(request.form['nitrate'])
        dissolved_oxygen = float(request.form['dissolved_oxygen'])
```

```
      ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
    File "C:\Users\SOMYA\AppData\Local\Programs\Python\Python312\Lib\re\__init__.py", line 186, in sub
        return _compile(pattern, flags).sub(repl, string, count)
KeyboardInterrupt
PS C:\Users\SOMYA\Desktop\chaitanya> python -u "c:\Users\SOMYA\Desktop\chaitanya\app.py"
Error loading model or scaler: [Errno 2] No such file or directory: 'scaler.joblib'
 * Serving Flask app 'app'
 * Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on http://127.0.0.1:5000
Press CTRL+C to quit
 * Restarting with stat
Error loading model or scaler: [Errno 2] No such file or directory: 'scaler.joblib'
 * Debugger is active!
 * Debugger PIN: 570-469-897
127.0.0.1 - - [15/Nov/2024 20:45:27] "GET / HTTP/1.1" 200 -
Received inputs: 543.0, 423.0, 55.0, 54.0, 53.0
Error in prediction: name 'scaler' is not defined
127.0.0.1 - - [15/Nov/2024 20:45:32] "POST /result HTTP/1.1" 200 -
```

EXPLORER

∨ **CHAITANYA**

  ∨ templates
    <> index.html
    <> result.html
  🐍 app.py
  ≡ best_model.sav