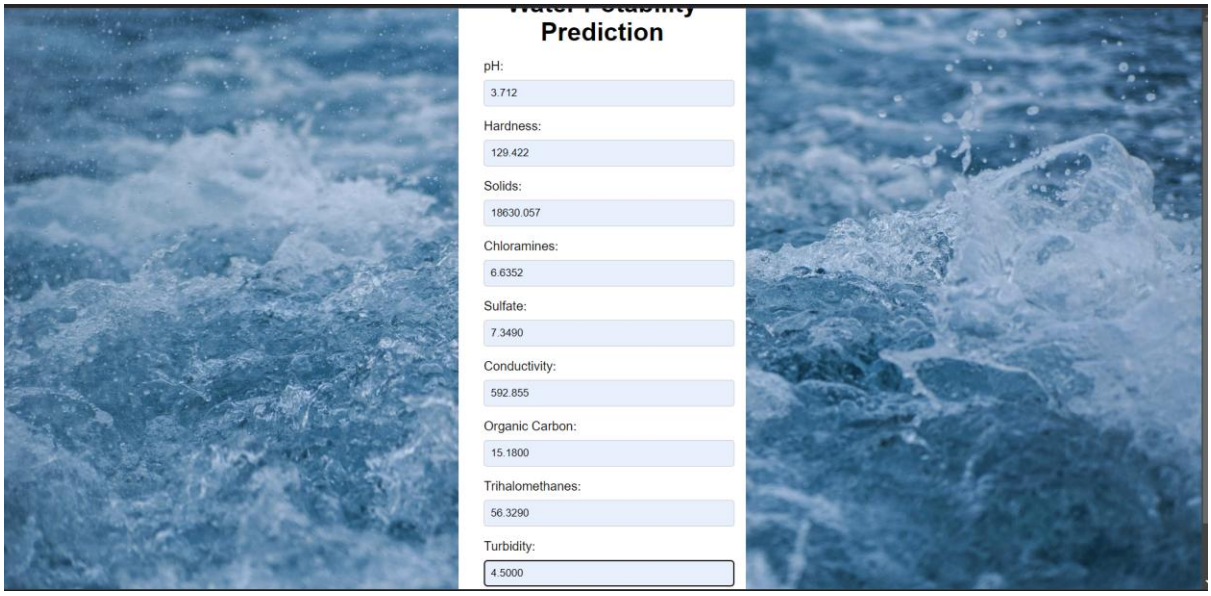
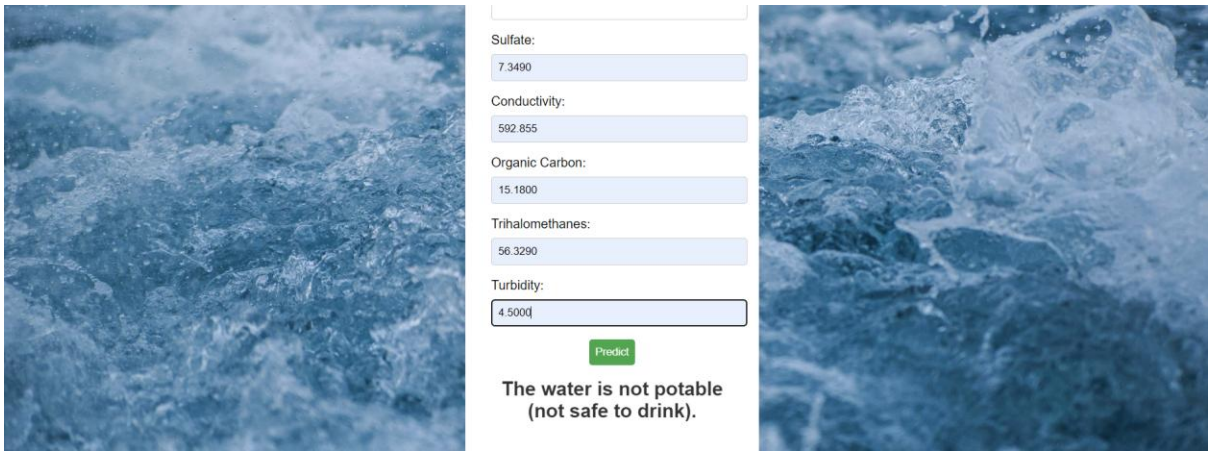
FLASK BASED UI

FILLING THE DATA IN GIVEN ATTRIBUTES



OUTPUT :



This project is a Flask-based web application designed to predict the potability of water using a machine learning model trained on a water potability dataset. The model predicts whether water is potable (safe for drinking) or not based on various water quality parameters, with a binary output: **1** indicating potable and **0** indicating non-potable.

Key Features:

- **User Input Form**: The application features an intuitive form that allows users to input key water quality parameters, including:
    - pH
    - Hardness
    - Total dissolved solids (TDS)
    - Chloramines
    - Sulfate
    - Conductivity
    - Organic carbon
    - Trihalomethanes
    - Turbidity
- **Machine Learning Model Integration**: The application utilizes a pre-trained machine learning model trained on a comprehensive water potability dataset. This dataset includes historical data, with each entry labeled as 1 (potable) or 0 (non-potable), allowing the model to learn the relationships between water quality parameters and portability.
- **Real-Time Predictions**: After users submit their input data, the application processes the information and provides immediate predictions regarding the potability of the water. Users receive a clear indication of whether the water is safe to drink (1) or not (0).
- **Responsive and User-Friendly Design**: The UI is designed to be responsive, ensuring a seamless experience across various devices, including desktops, tablets, and smartphones. The layout is straightforward, making it easy for users to navigate and interpret the results.
- **Clear Results Display**: The application presents the prediction results in a clear and understandable format, with visual indicators (e.g., color-coded messages) that help users quickly assess the safety of their water.

Technologies Used:

- **Flask**: A lightweight web framework that manages the application's routing, requests, and responses.
- **HTML/CSS**: Used for structuring and styling the web pages, ensuring a clean and professional look.

- **Machine Learning Libraries**: Libraries such as scikit-learn are employed to build, train, and deploy the machine learning model that predicts water potability based on user-provided parameters.

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