Monday 24-02-2025

Assignment: Streamlit App

Dear Trainees,

As part of our internship program, I am assigning you a task to help solidify your understanding of the concepts we have covered in our sessions, I am assigning a practical task to help you apply what you have learned.

Tasks: Your task is to randomly select one dataset from the provided five datasets, perform data preprocessing, build a machine learning model, evaluate its performance, and finally deploy it using streamlit.

Assignment Steps:

1. **Dataset Selection (Randomly) → Datasets**

Choose one dataset randomly and start working on it.

2. **Data Preprocessing**

Handle missing values (if any).

Perform feature engineering (scaling, encoding, etc.).

Identify and address any data imbalances.

3. **Model Development**

Choose an appropriate model (Linear Regression, SVM, Decision Tree, etc.).

Train your model and evaluate its performance (use accuracy, precision, recall, or other relevant metrics).

Improve your model's accuracy using hyperparameter tuning and feature selection techniques.(Optionally)

4. **Save the Trained Model**

Once satisfied with the model performance, save it using pickle or joblib.

5. **Build a Streamlit App**

Load the saved model and create a simple Streamlit web app for user interaction.

The app should allow users to input new data and get predictions from the trained model.

6. **Submit Your Work**

Upload your project (dataset, code, trained model, and Streamlit app) to GitHub.

Provide a README.md file explaining your work, dataset description, and steps to run the project.

Deliverables:

- Proper data preprocessing and feature engineering.
- No Need for deep visualizations.
- Model accuracy improvement (above 85%)
- A well-structured Streamlit app with a user-friendly interface
- Clean and well-documented code
- Correct submission on GitHub

Submit your assignment by **Thursday 27/02/2025 Until 10:00AM**

Additional Notes:

- If you have any questions or need clarification, feel free to reach out to me.
- This assignment is an opportunity to practice and apply your knowledge, so make the most of it.

Best regards,

DS. Tariq