

Assignment 1: Employee Attrition Prediction

Objective:

Predict whether an employee is likely to leave a company based on HR data.

Dataset:

Use the IBM HR Analytics Employee Attrition Dataset from Kaggle.

Tasks:

1. Load the dataset and clean missing/null data if present.
2. Encode categorical features (e.g., Gender, JobRole, OverTime).
3. Train a **RandomForestClassifier** to predict Attrition (Yes/No).
4. Evaluate with:
 - Confusion Matrix
 - Classification Report (Precision, Recall, F1)
 - Feature Importance Plot

Assignment 2: Predict Car Prices with Random Forest Regressor

Objective:

Estimate car prices based on various features like brand, mileage, engine power, etc.

Dataset:

Use the Car Dekho Dataset from Kaggle.

Tasks:

1. Preprocess data (handle missing values, encode categorical variables).
2. Split the dataset into training and testing sets.
3. Train a **RandomForestRegressor** to predict Selling_Price.
4. Evaluate with:
 - Mean Squared Error (MSE)
 - R^2 Score
5. Visualize actual vs. predicted price using a scatter plot.