# Feature Transformation

Apply LDA Algorithm on Iris Dataset and classify which species a given flower belongs to.

Dataset Link:<https://www.kaggle.com/datasets/uciml/iris>

# Feature Transformation

To use PCA Algorithm for dimensionality reduction.

You have a dataset that includes measurements for different variables on wine (alcohol, ash, magnesium, and so on). Apply PCA algorithm & transform this data so that most variations in the measurements of the variables are captured by a small number of principal components so that it is easier to distinguish between red and white wine by inspecting these principal components.

Dataset Link: <https://media.geeksforgeeks.org/wp-content/uploads/Wine.csv>

# Regression Analysis:(Any one)

Predict the price of the Uber ride from a given pickup point to the agreed drop-off location. Perform following tasks:

1. Pre-process the dataset.
2. Identify outliers.
3. Check the correlation.
4. Implement linear regression and ridge, Lasso regression models.
5. Evaluate the models and compare their respective scores like R2, RMSE, etc. Dataset link: <https://www.kaggle.com/datasets/yasserh/uber-fares-dataset>

# Classification Analysis (Any one)

Implementation of Support Vector Machines (SVM) for classifying images of hand- written digits into their respective numerical classes (0 to 9).

# Clustering Analysis (Any one)

Implement K-Means clustering on Iris.csv dataset. Determine the number of clusters using the elbow method.

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**Ensemble Learning (Any one)**

1. Implement Random Forest Classifier model to predict the safety of the car. Dataset link: <https://www.kaggle.com/datasets/elikplim/car-evaluation-data-set>
2. Use different voting mechanism and Apply AdaBoost (Adaptive Boosting), Gradient Tree Boosting (GBM), XGBoost classification on Iris dataset and compare the performance of three models using different evaluation measures.

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