**1. Credit Card Fraud Detection Using Random Forest (Ensemble)**

* **Description**: Detect fraudulent credit card transactions using atleast 3 ensemble methods( Stacking, bagging and boosting) . This project involves creating a classifier that can distinguish between normal and fraudulent transactions based on transaction attributes.
* **Dataset**: Credit Card Fraud Detection Dataset
* **Key Tasks**: Data preprocessing (handling imbalanced data), feature engineering, training the Random Forest model, and evaluating with metrics like precision, recall, and F1-score. Create a chart in python to compare the results of 3 algorithms used

**2. Image Classification Using Convolutional Neural Networks (CNN)**

* **Description**: Classify images of animals (such as cats and dogs) using a CNN model. This project focuses on deep learning techniques for image processing.
* **Dataset**: Dogs vs Cats Dataset
* **Key Tasks**: Preprocessing the images, building a CNN architecture, training the model, and testing the classifier’s performance.

**3. Customer Segmentation Using K-Means Clustering and any new algorithm of your choice in classifications**

* **Description**: Segment customers based on their purchasing behavior using unsupervised learning (K-Means clustering and any one classification algorithm of your choice). The goal is to identify different customer groups for targeted marketing.
* **Dataset**: E-Commerce Customer Segmentation Dataset
* **Key Tasks**: Data cleaning, feature extraction, applying K-Means clustering and one more classifier, and analyzing customer segments using visualizations.

**4. House Price Prediction**

* **Description**: Predict house prices using ensemble learning method XGBoost and anyone of your choice
* **Dataset**: House Prices: Advanced Regression Techniques
* **Key Tasks**: Data preprocessing, feature engineering, handling missing data, training the XGBoost model, and evaluating predictions using Mean Absolute Error (MAE) or Root Mean Squared Error (RMSE).

**5. Stock Price Prediction Using LSTM**

* **Description**: Predict future stock prices using Long Short-Term Memory (LSTM), a type of recurrent neural network suitable for time-series data. This project involves training a model to forecast stock trends.
* **Dataset**: Yahoo Finance Stock Market Data
* **Key Tasks**: Time-series analysis, data normalization, building the LSTM model, and evaluating model performance with RMSE.

6 . **classification:**

For the dataset available in https://archive.ics.uci.edu/ml/machine-learning-databases/breast-cancer-wisconsin/wdbc.data", do the ensemble learning ( any 3 models) and compare the results using a chart and colourful confusion matrix

breast cancer dataset

use a multivariate logistic regression model. Add the ‘interest\_rate’, ‘march’,

‘credit’ and ‘previous’ estimators to our model and run the regression again.

7. **classification:**

.For the dataset available in git hub for Bank\_data.csv do the ensemble learning ( any 3 models) and compare the results using a chart and colourful confusion matrix

Load the ‘Bank\_data.csv’ dataset or breast cancer dataset

use a multivariate logistic regression model. Add the ‘interest\_rate’, ‘march’,

‘credit’ and ‘previous’ estimators to our model and run the regression again.

"https://archive.ics.uci.edu/ml/machine-learning-databases/breast-cancer-wisconsin/wdbc.data"