5) Machine Learning Classification Models

CLASSIFICATION

- **Classification** is a supervised learning technique used to predict categorical labels for given input data. The goal is to assign each input instance to one of a predefined set of classes based on patterns learned from the training data.

USE CASES

- **In Finance ->**
- **Fraud Detection:**
- Classifying transactions as fraudulent or legitimate to prevent financial losses.
- **Credit Risk Assessment:**
- Predicting whether a borrower is likely to default on a loan.
- **Stock Market Predictions:**
- Classifying stocks as "buy," "hold," or "sell" based on patterns in historical data.
- **Customer Segmentation:**
- Grouping customers into categories (e.g., high-value vs. low-value clients).
- **Loan Approval:**
- Deciding if a loan application should be approved based on customer data.

RESOURCES

- **Classification**

- **Classification Models**

- **Python Code Templates (for ML Classification Models)**

- **Machine Learning Specialization by Andrew Ng** (Theory)

ASSIGNMENT -4

- ☐ **Assignment -4 Link**
- ☐ **Submission Link**