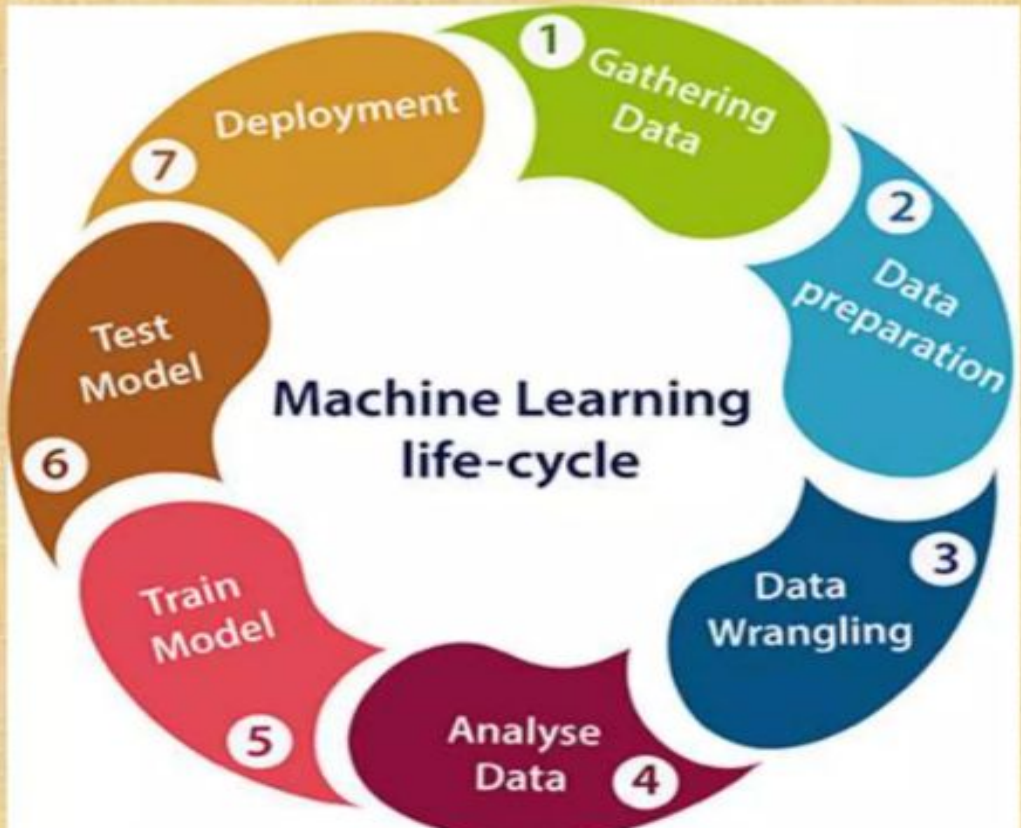
INTRODUCTION

Machine learning has given the computer systems the abilities to automatically learn without being explicitly programmed. The main purpose of the life cycle is to find a solution to the problem.

STEPS OF MACHINE LEARNING LIFE CYCLE

- Gathering Data.
- Data preparation.
- Data Wrangling.
- Analyse Data.
- Train the model.
- Test the model.
- Deployment



1. GATHERING DATA

The goal of this step is to identify and obtain all data-related problems.....

In this step, we need to identify the different data sources, as data can be collected from various sources such as **files**, **database**, **internet**, or **mobile devices**. **The quantity and quality of the collected data will determine the efficiency of the output.**

2. DATA PREPARATION

We put our data into a suitable place and prepare it to use in our machine learning training.

This step can be further divided into two processes:

- **Data exploration:**
  It is used to understand the nature of data that we have to work with. We need to understand the characteristics, format, and quality of data.
- **Data pre-processing:**
  Data preprocessing is a process of preparing the raw data and making it suitable for a machine learning

3. DATA WRANGLING

Data wrangling is the process of cleaning and converting raw data into a useable format. It is the process of cleaning the data, selecting the variable to use, and transforming the data in a proper format to make it more suitable for analysis.

In real-world applications, collected data may have various issues, including:

- **Missing Values**
- **Duplicate data**
- **Invalid data**
- **Noise**

So, we use various filtering techniques to clean the data.

4. DATA ANALYSIS

This step involves:

- **Selection of analytical techniques**
- **Building models**
- **Review the result**

The aim of this step is to build a machine learning model to analyze the data using various analytical techniques and review the outcome.

5. TRAIN MODEL

In this step we train our model to improve its performance for better outcome of the problem.

We use datasets to train the model using various machine learning algorithms. Training a model is required so that it can understand the various patterns, rules, and, features.

6. TEST MODEL

Once our machine learning model has been trained on a given dataset, then we test the model. In this step, we check for the accuracy of our model by providing a test dataset to it.

Testing the model determines the percentage accuracy of the model as per the requirement of project or problem.

7. DEPLOYMENT

If the above-prepared model is producing an accurate result as per our requirement with acceptable speed, then we deploy the model in the real system. But before deploying the project, we will check whether it is improving its performance using available data or not. The deployment phase is similar to making the final report for a project.

Thank you