Machine Learning 4 (3+1) Weeks Program

➢ **SESSION 01**

Introduction to Machine Learning

    What is Machine Learning?
    Types of Machine Learning
    How Machine Learning works?
    Usage of Machine Learning.

➢ **SESSION 02**

Function and packages

    Function
    Packages
    Installing different packages of Python

➢ **SESSION 03**

Working on various Python Libraries

    Numpy
    Pandas
    Matplotlib
    Scikit-learn

➢ **SESSION 04**

Working on Numpy

    Introduction to NumPy array
    Creating arrays of different Dimensions
    Indexing
    Data processing using Array

➢ **SESSION 05**

Data Analysis using Pandas

    Introduction to Pandas
    Data Type of Pandas
    Creating Data frame using Pandas
    Importing Dataset using Pandas
    Various operations on data using Pandas tools

- ## SESSION 06
  ## Data visualization using Matplotlib
  Plotting data using Matplotlib library
  Using various tools of Matplotlib
  Types of Graphs
  Implementation of different types of Graphs

- ## SESSION 07
  ## Applying Algorithms on Dataset using Scikit-Learn
  Data splitting
  Using different algorithms for dataset
  Prediction
  Score check
  K-Fold Technique
  Cross Validation
  Hyper Parameter Tuning

- ## SESSION 08
  ## Machine Learning Algorithms
  Regression analysis
  Simple linear regression
  Multi linear regression
  Classification
  Binary class classification
  Multi class classification
  Support Vector Machine
  KNN algorithm
  Decision Tree

  ### Projects
  Salary Prediction Project
  Gender Classification Project
  House Price Prediction Project
  Iris Flower Species Classification Project
  Digit Recognition Project
  Survival Prediction on Titanic Project
  Object Recognition Project
  Insurance Purchase Prediction Project

Major Datasets Covered
IRIS Dataset
BMI Male Female Dataset
MNIST Dataset
DIGIT Dataset
Titanic Dataset
CIFAR Dataset

DISCUSSION ON FINAL PROJECT
Final project & report of the same will be made by participant(s) only.