Assignment No. 1

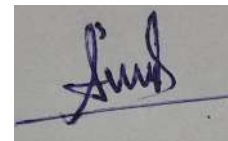**Unit I**

Subject: Machine Learning   **Year: 2021-22 (Semester II)**
                                                                Marks: 50

CO1: Distinguish different learning based applications				
Que. No	Questions	BT Level	CO	PO	Marks
1	Define machine learning and state two examples or applications of machine learning in our day to day life.	1,2	CO1	1,2,12	10
2	Explain the roles of machine learning algorithms in following applications : a) Visual tracking with webcam or a Smartphone b) Predictive analytics	1,3	CO1	1,2,3,4	10
.3	Justify the statement Raw data has a significant impact on feature engineering process.	1,2,3	CO1	1,2,3,4	10
4	With reference to machine learning explain the concept of adaptive machines.	1,2	CO1	1,2,3,4	10
5	Explain data format for supervised learning problem with example.	1	CO1	1,2,3	10

Subject Teacher
(Prof. S.P.Gade)

Assignment - 1

Gauri Raut

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Page No.:

YOUVA

Date:

Q-1 Define Machine learning and state two examples or applications of machine learning in our day to day lives.

Ans:- Machine learning is a subset of Artificial Intelligence, that provides systems ability to learn automatically. It is a concept which allows machines to learn from their experience and examples and improve from experience without being explicitly programmed. Machines learn from their experience and Makes predictions based on its experience. A machine learning algorithm is trained on a set of data to create a model, this data is called as training data.

Examples of Machine learning in our day to day lives:-

A) online shopping Recommendation :- Recommendation of similar product while searching / shopping a online product. After buying one product, suggestion of people who bought this product also bought another product.

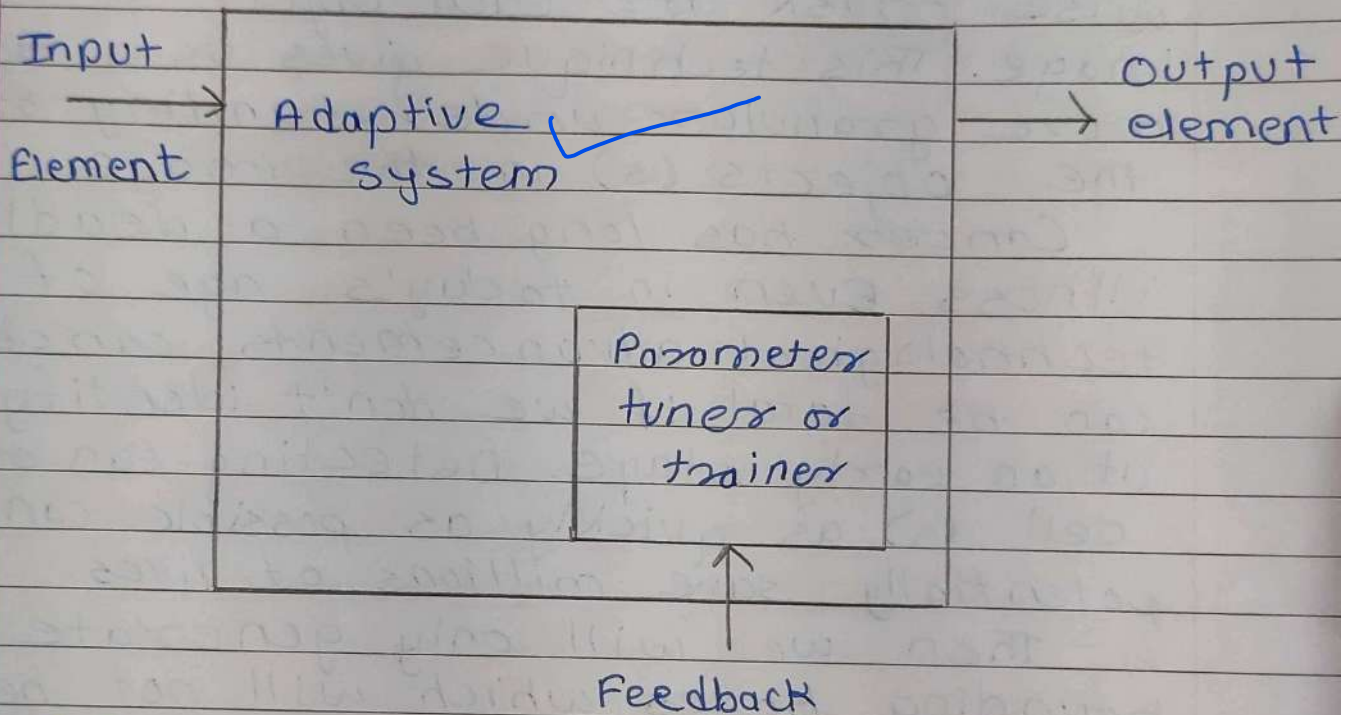B) Target marketing using the concept of Clustering in machine learning :- Call centre people calling up and offering a bank loan or credit card. This call is made only to few selected customer who they think will purchase their product.

Q-2 Justify the statement:- Raw data has a significant impact on features engineering process.

Ans:- 1. Features engineering is the process of converting raw data into features that can be used in building a model that can address the underlying problem and result into better accuracy on unseen data.

2. Feature engineering is an important part in building any intelligent system.

3. There are a wide variety of methods used in building intelligent systems, like machine learning, deep learning and others, however each problem is domain specific.

4. In every domain, features play a significant role in system performance. These features are computed from raw data. related to the problem and the domain. This is the reason often a data scientist spends 70% of their time in data preparation before the model building process.

5. The process of feature engineering is time consuming and needs both domain knowledge and Mathematical computations background.

Q-3 With reference to machine learning explain the concept of adaptive machine.

Ans:- Adaptive system has the ability to adopt its behavior to external signals like datasets or real time input to predict the future.

```
Input                                      Output
  ────→   Adaptive          ────→   element
Element      System   ✓

                    ┌──────────────┐
                    │  Parameter   │
                    │  tuner or    │
                    │  trainer     │
                    └──────↑───────┘
                           │
                       Feedback
```

Adaptive system isn't based on static or permanent structure (model parameters and architectures) but rather on a continuous ability to adopt its behavior to external signal (datasets or real-time inputs) and, like a human being, to predict the future using uncertain and fragmentary pieces of information.

Q-4 Explain role of machine learning the following common un-supervised learning problems:
a] Object segmentation
b] Similarity detection.

Ans:- a] Object segmentation:-
Object segmentation creates a pixel-wise mask for each object in the image. This technique gives us a far more granular understanding of the objects (s) in the image.

Cancer has long been a deadly illness. Even in today's age of technological advancements, cancer can be fatal if we don't identify it at an early stage. Detecting cancerous cell (s) as quickly as possible can potentially save millions of lives.

Then we will only generate bounding boxes which will not help us in identifying the shape of the cell.

b] Similarity detection:-
Similarity detection is an area of supervised machine learning in artificial intelligence. It is closely related to regression and classification, but the goal is to learn a similarity function that measures how similar or related two objects are.

It has applications in ranking in recommendation systems, visual identity tracking, face verification, and speaker verification.

Similarity detection is used in information retrieval for learning to rank, in face verification or face identification. and in recommendations systems.

Q-5 Explain data formats for supervised learning problem with example.

Ans:- supervised learning :-

supervised learning is when the model is getting trained on a labelled data set.

supervised
Learning
├─ Classification (defined labels)
└─ Regression (no labels defined)
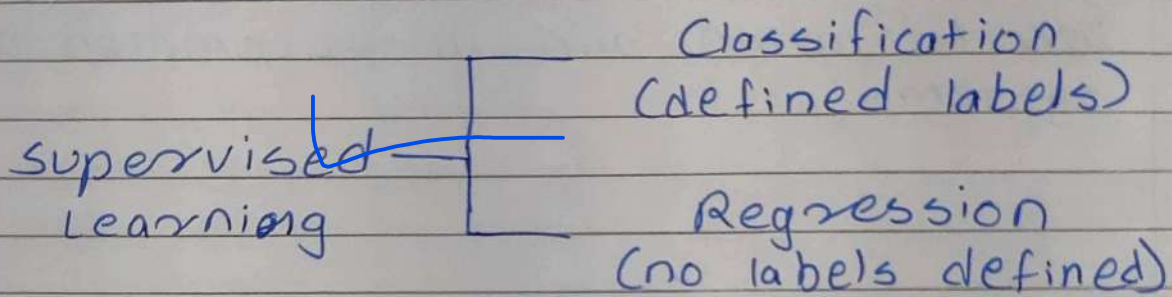
1] **Classification:-**

It is a supervised learning task where output is having defined labels (discrete value). It can be either binary or multi class Classification.

Example:- Gmail classifies mails in more than one classes like social, promotions, updates, forum.

2] **Regression:-**

It is a supervised learning task where output is having continuous value. The smaller the error the greater the accuracy of our regression model.

Example:- linear Regression.

The goal here is to predict value as much closer to actual output values as our model can. Evaluation is done by calculating error value.

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A

Mini Project Report

Data Base Management System

On

Project Management System

Submitted to

Department of Computer Engineering

PDEA's Collage of Engineering Manjari BK Pune 412307

Submitted By:

Adesh Giri

Ajesh Rathod

Mayur Tembhare

TE Comp

CERTIFICATE

 This is to certify that the below mentioned third year engineering students have carried out the necessary data base management system mini project report on **"Project Management System"** in the department of Computer Engineering.

PDEA's College of Engineering, Manjari BK, Pune 412307. They have completed this mini project report under my guidance in satisfactory manner in December 2021 of third year engineering.   .

Computer Engineering students have successfully completed a data base management system mini project report on **"Project Management System"** towards The fulfillment of their Degree in Computer Engineering in academic year 2021-2022 .

The Performance of each of these students during the courses was very good.

Guide   HOD Computer Dept.   Principal

Prof. Swati Gade   Dr. R. V. Patil   Dr. R.V.Patil

ASSIGNMENT NO 8

Title:
Mini project.

Objective:
To create a digital clock by python programming

Theory:
In this section, I will show you how to create a digital clock using python. This is a simple task to get started with the Tkinter library in Python, which is a built-in package that comes with Python. Tkinter has some cool features that can be used to build simple apps.

Code:

```python
from tkinter import Label, Tk
import time
app_window = Tk()
app_window.title("Digital Clock")
app_window.geometry("420x150")
app_window.resizable(1,1)

text_font= ("Boulder", 68, 'bold')
background = "#f2e750"
foreground= "#363529"
border_width = 25

label = Label(app_window, font=text_font, bg=background,
fg=foreground,
bd=border_width)
label.grid(row=0, column=1)

def digital_clock():
    time_live = time.strftime("%H:%M:%S")
    label.config(text=time_live)
    label.after(200, digital_clock)

digital_clock()
app_window.mainloop()
```