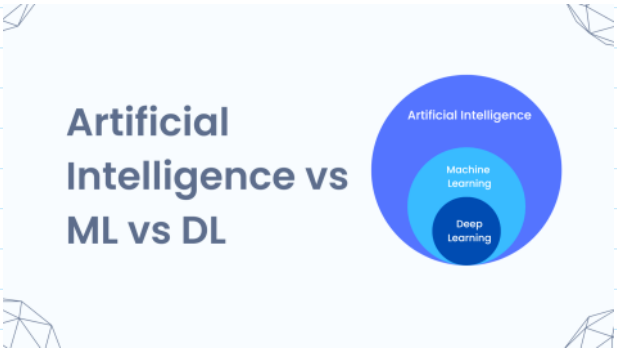
Machine Learning

Friday, November 8, 2024 10:42 PM

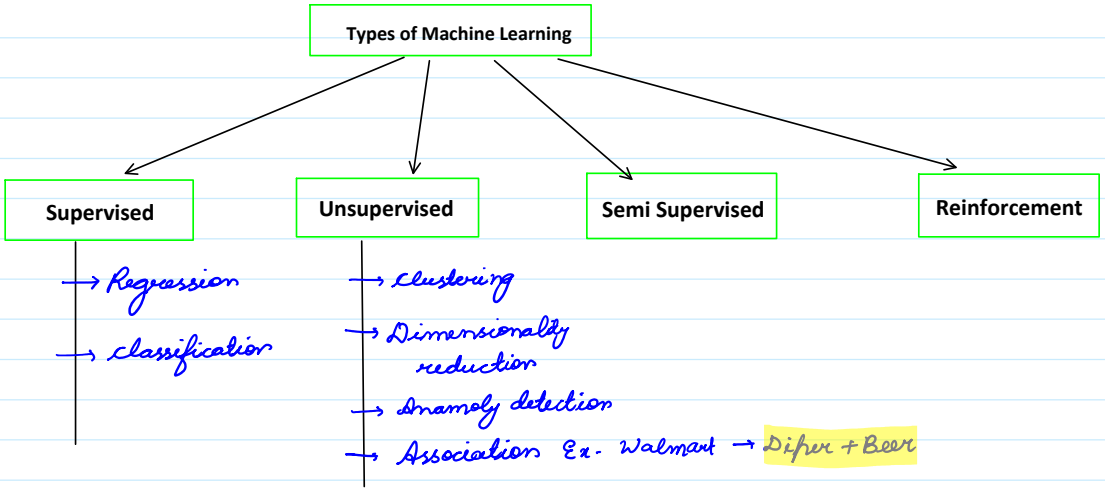


Deep learning is the advanced version where we provide input it will give output without giving features.

Input, Features → ML

Input → DC → output

It will recognize by self



Supervised Learning

→ Input and output are present and mapped already.

Ex-

Input		Output
IQ	CGPA	Placement
100	8	Yes
99	10	No
57	5.7	Yes

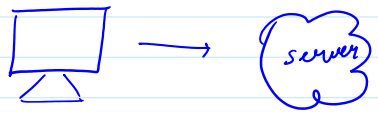
Regression → When output is numeric
classification → When output is categorical

UnSupervised Learning

→ Only input data is provided

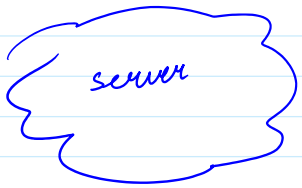
Batch Learning

→ We will train model in our local system and then deployed to the server.



Online Learning

→ Here model will trained on the server where it will predict as well as learn



→ This is used where there is a concept drift

↳ iska mtlb jha customer ya product ki requirements frequently change hoti hai

Tensors

→ It is just like a datastructure to store numeric data most of the time.

0 D Tensors

```
import numpy as np
a=np.array(4)
a.ndim       #Output:0
```

1 D Tensors

[1,2,3,4] ↝ ndim=1

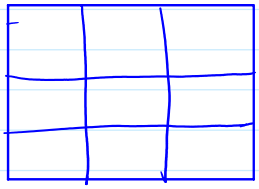
No. of axes = rank = dimension

```
import numpy as np
a=np.array([1,2,3,4,5])
a.ndim          #Output:1
```

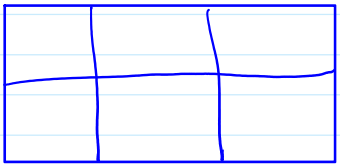
2 D Tensors

```
import numpy as np
a=np.array([[1,2],[3,4]])
a.ndim          #Output:2
```

N D Tensors *Collection of N-1 D tensors*



shape = 3×3



shape = 2×3

Examples of 4D and 5D tensors

Image - 4D tensor

Videos - 5D tensor

- **Learn all the tools and technique to do data science and ML like jupyter, kaggle, google colab**