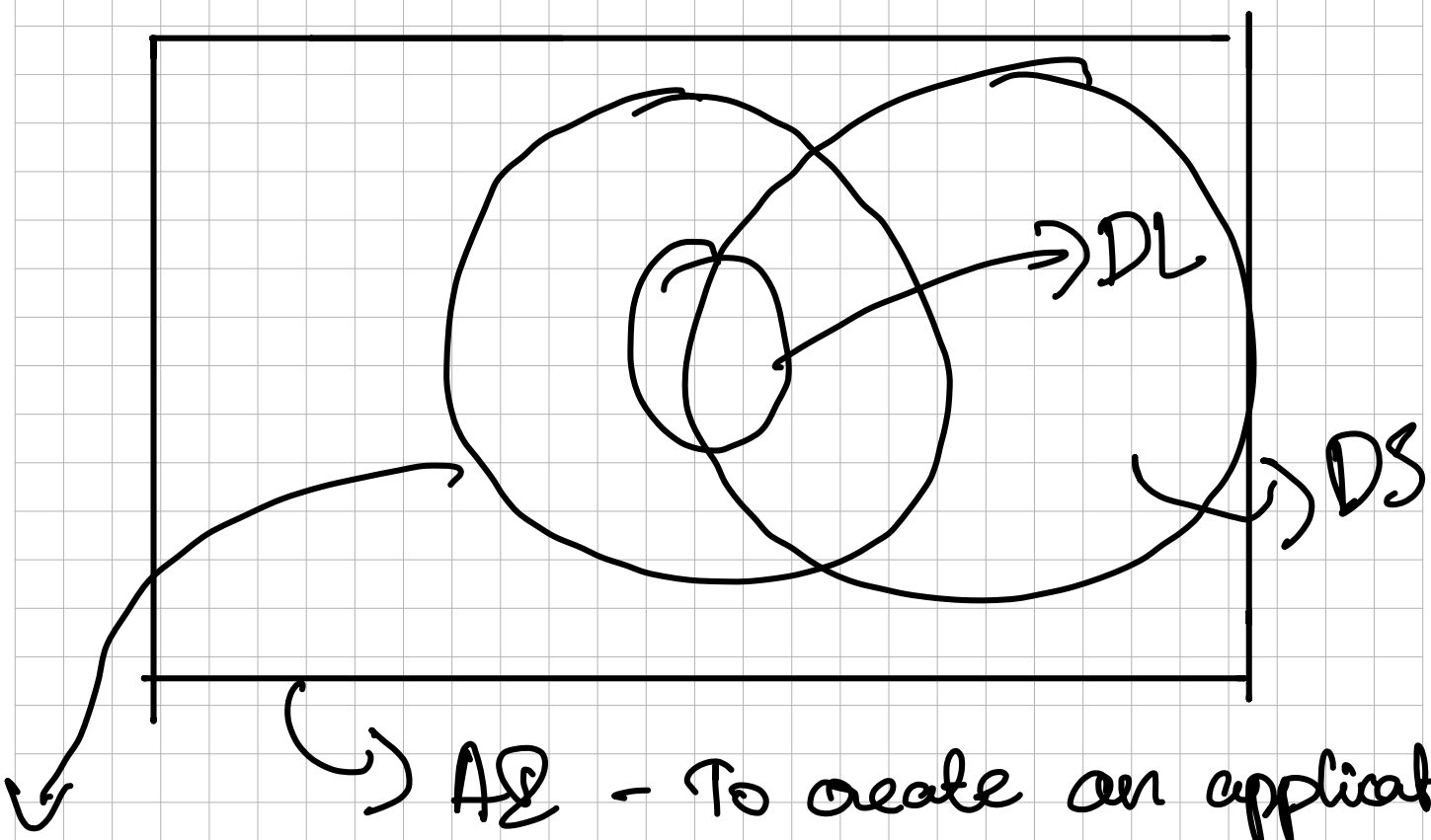
Introduction to Machine learning.



AI - To create an application perform on its own task without any human intervention.

ML (Machine learning) provides stats tool to analyze and visual the data

DL - Deep learning means teaching the machine in a simple way of human learning.

we use the multi layer Neural network for Deep learning. DNNs so complex but it is possible to do that.

Data Scientist:

Data Scientist means the Person who can able to manipulate and analyze the data based on the usecase.

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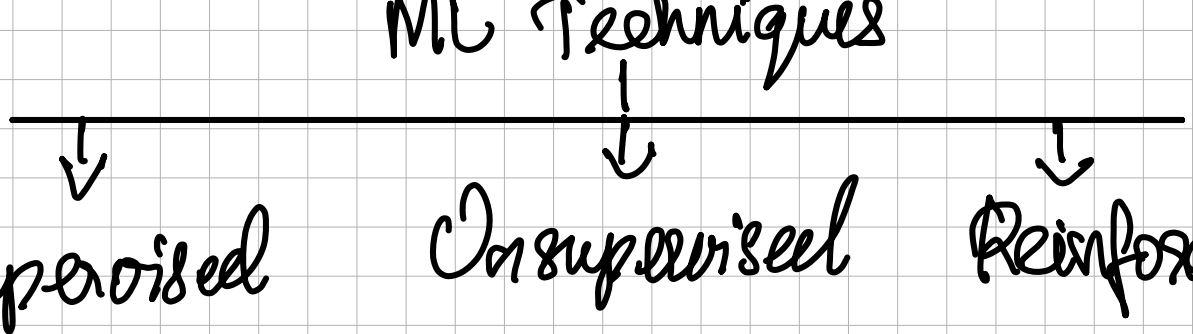
② Types of machine learning:



Supervised ML:

Let's see an example:

Dataset

Features
- ⇒ Size of the house → Independent feature
- ⇒ # of Rooms
- ⇒ Price of the house → Dependent or o/p feature

Regression example too ✓

Size of house	# of Rooms	Price
5000	5	450K
6000	6	600K
7000	6	650K
8000	7	700K

The o/p feature changes according to the input feature.

↳ Continuous Number o/p features.

Supervised ML have two Problem Statements:

① Regression.

② classification.

① Regression:

* In Regression problem statement, we'll have an output feature.

* And that output feature will be continuous.

② classification:

* If the output feature is categorical, then, it is classification.

Regression is used when the output is a number (continuous)

Classification is used when the output is category / class.

Classification example:

o/p feature

No. of study hours	No. of play time	Pass / fail
7	3	Pass
2	6	fail

Binary classification - 2 types of o/p feature

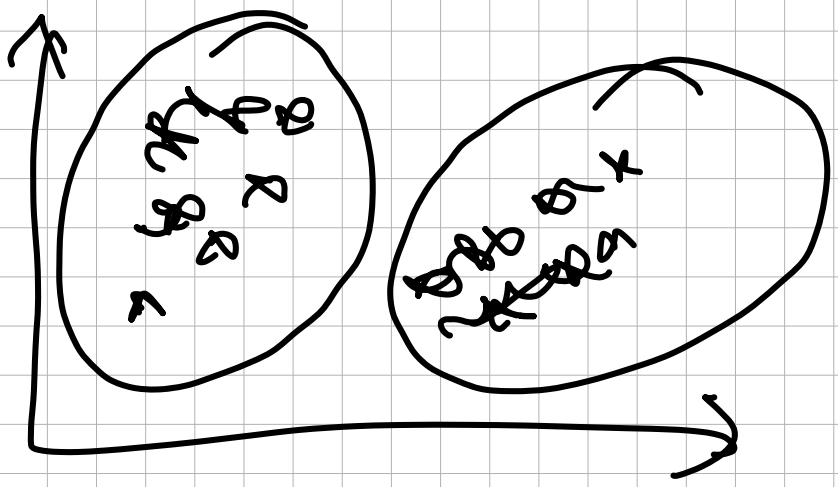
multiple classification - more than two o/p features.

② unsupervised machine learning:

Example: customer segmentation

In unsupervised ML, we don't need to predict anything, we just need to group / cluster a specific dataset.

Salary	Spending Score (Higher the better).
20k	9
30k	7
40k	2



(3) Reinforcement learning

Reinforcement learning is a type of reward based learning system. In this, the Machine will learn by itself, if the o/p is correct, the machine learning model will be notified as a reward system so it knows its going on a correct path.