

based on production

day 2

MVP Samaj's, KBT COE, NASHIK

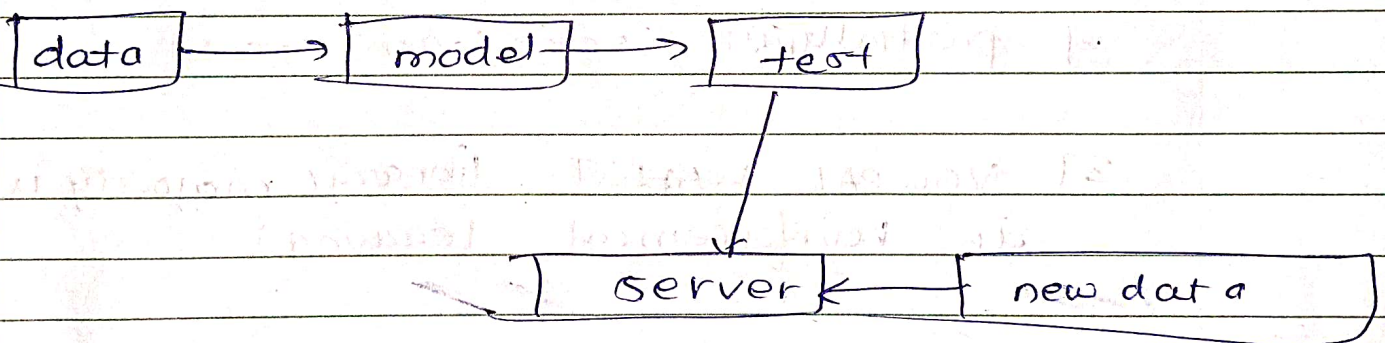
video-5. (11/4/25)

Online Learning:

It is a type of machine learning, where the model is trained incrementally as new data becomes available.

Instead of training on entire dataset at once (batch learning), online learning processes data one instance at a time or in small chunks.

How it works:-



And this cycle is repeated again & again.

(The first model is train on small chunk & send deploy on server & in this when new data comes it is trained on server we don't need to take out the model offline).

"SAVE ENERGY & PROTECT ENVIRONMENT"

(e.g) → chatbots, Alexa, Siri

* When to use:

1] when there is a concept drift. (means the nature of problem is changing)

2] cost-effective

3] faster solution

* How to implement:

1] River library.

2] partially fit (scikit learn's part)

3] VOWPAL WABBIT library (majorly used in reinforcement learning)

* Dis-Advantages:

1. Tricky to use

2. Risky.

based on how machine learning model learns.

Video - 6 Instance based vs Model based learning

MVP Samaj's, KBT COE, NASHIK

* Instance based learning:

The machine learning systems which are categorized as instance-based learning are the systems that learn the training examples by heart & then generalize to new instance based on some similarity measure.

It is also known as memory-based learning or lazy learning.

The time complexity of this algorithm depends upon the size of training data.

The worst case time complexity of this algorithm is $O(n)$, where n is the no. of training instance.

* Model based learning:

A system is called model-based when it learns from data & creates a model, which has some parameters & it predicts the output by using this data trained model.