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FOUNDATION OF MACHINE LEARNING

ML ASSIGNMENT

1. Building a ML mindset

As per my understanding AI is a combination of Learning and Understanding of algorithm. And Algorithm is a logic to which used to complete or solve any query. ML is a subset of AI and DL (Deep learning) is a subset of ML.

2. What is ML?

Classifying any object based on one or more standard features where effect of generalisation is least.

Features Extraction is "HOW TO REPRESENT DATA POINTS" and classification is "CLASSIFY THE OBJECT IN TO DIFFERENT CLASSES BASED ON THE FEATURES" .

3. Pipeline of ML

- I. Define a problem-Articulate a problem
- II. Collect data-Look for labelled data
- III. Clean and process data-Design data s per requirement
- IV. Extract Features- Based on problem which are the standard features
- V. Learn to perform Task-check the Output
- VI. Predict Output

4. Types of ML algorithm

- I. Supervised Learning
 - a) Classification
 - b) Regression
- II. Unsupervised Learning
 - a) Dimension Reduction
 - b) Clustering
- III. Reinforcement Learning

In ML we used Natural Science for running any experiment and Statistical analysis instead of logic to analyse the output.

5. Different example where we used ML in day to day life

- i. Post anything (Text, Pictures, Video) in Social media
i.e. If we search any person or location or any product or any channel in FB, it shows the exact and also relevant result based on search.
HOW ML works: Fb collect each and every data we post on their platform and use against our search. Its shows the most demanded person/location /any result as per the search.
- ii. Reading Comprehension
In Reading Comprehension what exactly happen, a paragraph is given to us and below that some question given from the paragraph and we have to find the answer from the same paragraph. This logic is same for every paragraph so what ML do, its stored the location of the answer even it understand what exactly the answer should be.

iii. House Rental app

Let's take an example of house rental app Magic bricks. As per our requirement we put some filter and we can see exact result. Here the Features Engineer or the data scientist never put data as we filter but from the features of the data they are classified as per our filter and sort

Below the data set is random and only for Bangalore location and for understanding purpose.

Location	BHK	Rental	Prefer by
Sarjapura signal	3	18000	Family
Wipro Corporate office	2	10000	Bachelors
Domasandra	4	25000	Family
Sarjapura	1	8000	Bachelors

Location, BHK and rents are the features and preferred by is the class from here we can easily visualize the data which pattern by one single line .