

# Machine learning-1 { Questions in notes } form

- 1.) Machine learning is a term which is like a prototype build with such algorithm and some preprocessing that it can understand data sets & relation b/w parameters, there collinearity & difference by each other.
- 2.) Application of M-L will be, Forecasting, Predictions, Improvisations, & can increase the productivity in a business.
- 3.) Labeled data set is used to train ML models so that it can understand relations b/w parameters.
- 4.) Regression & Classifications are two tasks that are supervised.
- 5.) Unsupervised-learning
  - ← K-means clustering
  - ← PCA
  - ← Dimensionality reduction.
  - ← Association rule learning.
- 6.) For Robot to walk on a terrain it should be reinforcement learning, where it can learn through previous terrains about how to react or response.
- 7.] Classification algorithm is used to divide a data set in groups.
- 8.] Spam detection supervised learning, provide some datasets with ml model.

- 9.) online learning system as data comes in while you are training a model (data is not static).
- 10.] out-of-core while training a ML model data is taken from some storage devices bcoz it is not stored in a single machine.
- 11.) <sup>\*</sup> Learning algorithm that relies on a similarity measure to make predictions is instance based algorithm.
- 12.) Model Parameter  $\rightarrow$  Parameters judged by algorithms.
- Hyperparameter:  $\rightarrow$  These adjustable parameters to make model more productive.
- 13.) ML based algorithm search for the optimal value of parameters in a model that will give best outcome using Cost function or etc. —
- 14.) Four main challenges of ML.
- + overfitting
  - + underfitting
  - + lacking in data
  - + non representative data.
- 15.) if model performs well on training data but not able to generalize given data, bcoz of overfitting.
- 16.] Test set is imp in supervised learning so model can learn the features.



- 17.) Validation set of dataset is use to train AI.
- 18.) Dev-set is to rank the models in term of their accuracy.
- 19.] if you use toning on test data then model could behave as biased which affect on unseen data.