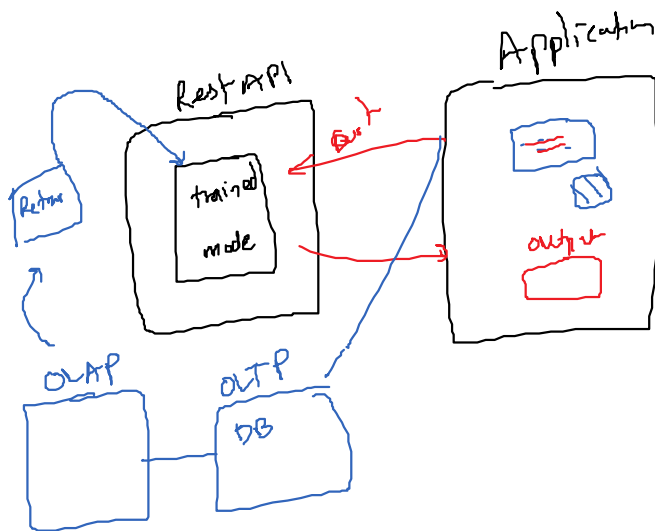
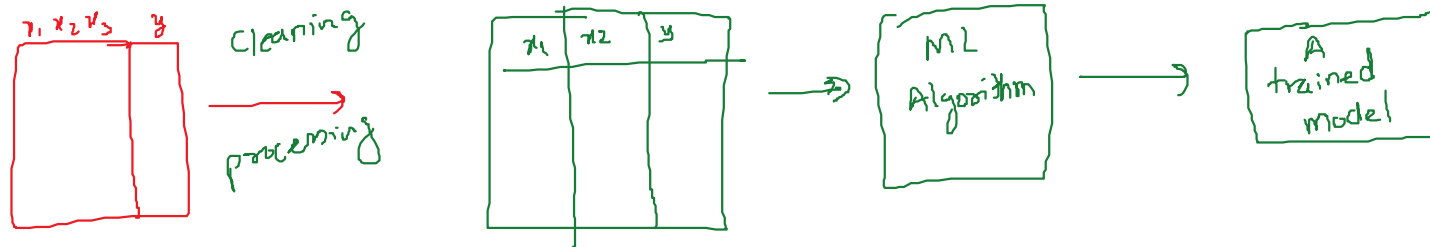


# Machine Learning

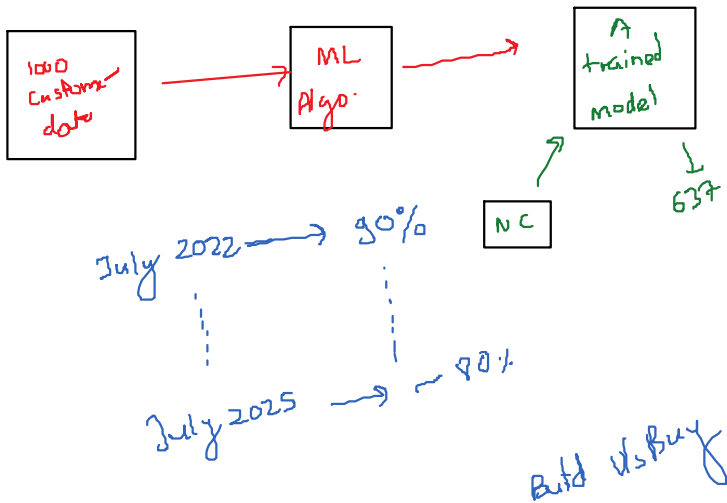
19 July 2022 12:34

## Supervised Machine Learning

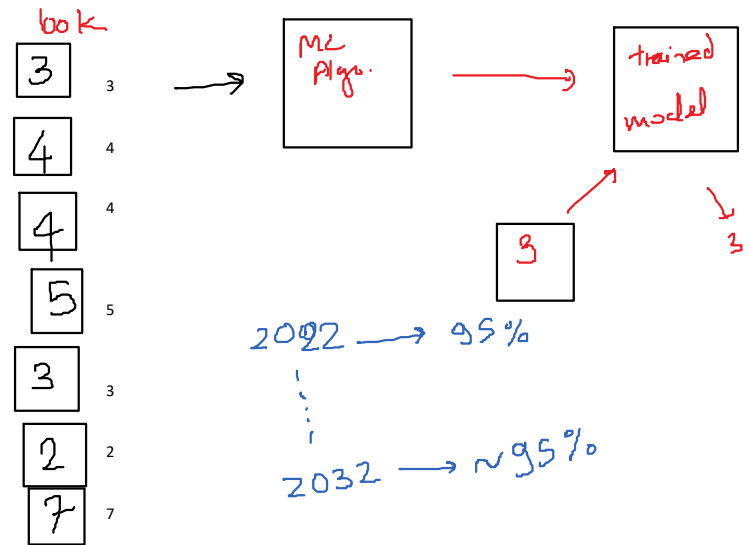
- Algorithms can be used to make predictions, estimations, recognition
- Always need labelled data, that means along with input data tabular data/image/text - it also needs labels - this also makes supervised tasks expensive - data labelling makes the whole task expensive
- We train the algorithm with training data ---> obtain trained model ---> the trained model does not carry the training data, it only carries patterns in the form of rules/equations
- A trained supervised model when deployed to production, it does not learn in production, it only makes predictions in production.



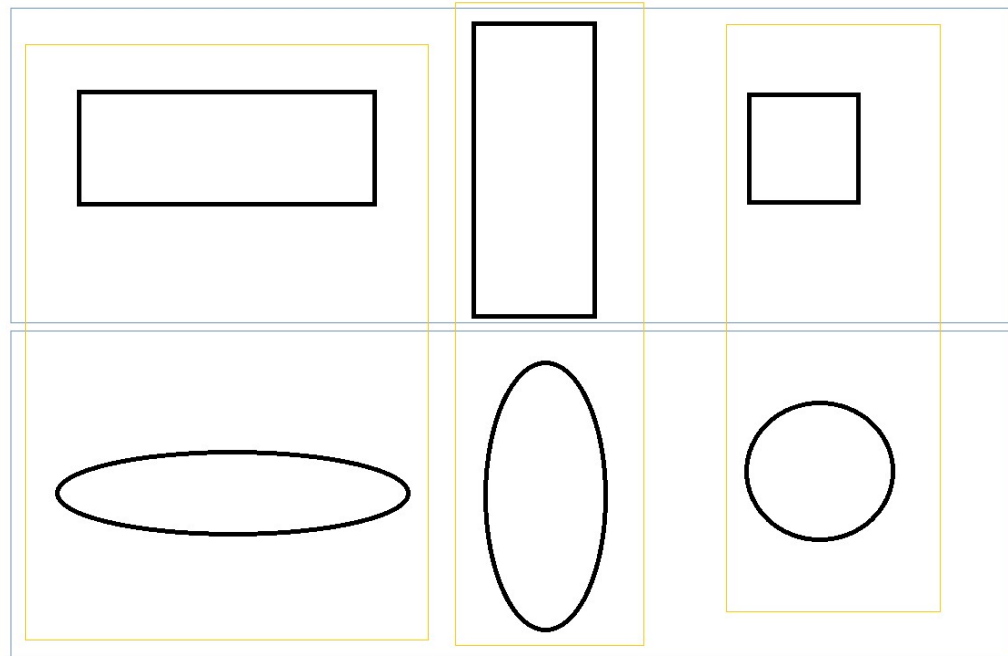
Case 1: health insurance annual premium prediction  
 Obj: to build a model which can be used to predict annual premium charges for health insurance using customer details



Case 2: Cheque digit identification  
 Obj: to build a model which can recognize the digit from the image



## Clustering



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a model to predict whether the patient will renew or not the insurance?

5000 patients labelled data ----> trained a supervised model ---> trained model

1 million existing customers ----> trained supervised model ----> 2000 customers will not renew

-----> reasoning

#####

2000 customers features -----> unsupervised algorithm -----> identify groups of customers