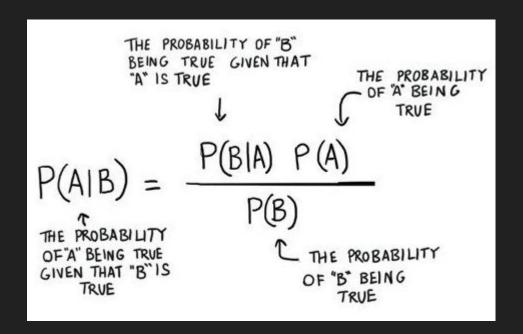


Naive Bayesian Classifier | ML LAB 5 | VTU

By Prajwal Mani

What is Bayes Theorem?



Bayes theorem talks about Conditional probability.

Naive Bayesian Classifier Algorithm

Algorithm:

NaiveBaiseClassifier(training examples, New Instance)

Each instance \mathbf{x} is described by a conjunction of attribute values(a_i) and the target V can take j finite set of values.

- a. For each value j in target estimate the P(Vj)
- b. For each attribute in the training example estimate Estimate the P(ai|Vj)
- c. Classify each instance as per the rule in equation

$$v_{NB} = \underset{v_j \in V}{\operatorname{argmax}} P(v_j) \prod_i P(a_i|v_j)$$

Where V_{NB} denotes the target value output by the naive Bayes classifier

d. Output V_{NB}