**Naive Bayes**

Naive Bayes is a machine learning model that is used for large volumes of data, even if you are working with data that has millions of data records the recommended approach is Naive Bayes. It gives very good results when it comes to Natural Language Processing tasks such as spam filtering for emails, collaborative filtering for recommendation engines and sentiment analysis.

It is a fast and uncomplicated classification method on a set of supervised learning algorithms based on Bayes’ theorem that derives the probability of the given feature vector being associated with a label. Naive Bayes has a naive assumption of conditional independence for every feature, which means that the algorithm expects the features to be independent which not always is the case. So, if some of the features are in fact dependent on each other (in case of a large feature space), the prediction might be poor.  
Naive Bayes is a generative model. It models the joint distribution of the feature X and target Y, and then predicts the posterior probability given as P(y|x). Posterior probability can be defined as the probability of event A happening given that event B has occurred, this means that the previous belief can be updated when we have new information.