Week 7 HLT

Naive Bayes

1. ***Is it Supervised/Unsupervised/Reinforcement learning?***
    a. Naive Bayes or Naive Bayes methods are a set of supervised learning algorithms based on applying Bayes' theorem with the “naive” assumption of conditional independence between every pair of features given the value of the class variable.
2. ***What does the algorithm do?***
    a. The algorithm uses a method to predict the probability of different classes based on various attributes. This algorithm is mostly used in text classification and with problems having multiple classes.
3. ***In which situations will it be most useful?***
    a. Its mainly useful in text classification due to the better results it provides in multi class problems and it has a higher success rate when compared to other algorithms. As a result, it is widely used in Email Spam filtering and Sentiment Analysis (in social media analysis, to identify positive and negative customer sentiments).
4. ***(Optional) Can you find any examples of where this algorithm has been used?***
    a. A practical example of NB being applied in the real world was when it was used to predict onset Alzheimer's disease in 1411 individuals who each had 312 318 SNP measurements available as genome-wide predictive features.