Abstract

Arabic is a unique language because it really concerns in makhraj (the way of sound is made) that differentiate letters and words. The difference in pronouncing letters and words make the meaning of those words different, because pronouncation in Qur'an letters really concern in harakat (the length of words). According to that matter, it is necessary to build a speech recognition for Hijaiyah with punctuation letters in Qur'an. There are many methods that can be used for building that system. One of the best method is Hidden Markov Model (HMM). Main inference which is used by HMM is Bayes' Rule that used in Naïve Bayes, a part of Bayesian Network. This system will focus on Naïve Bayes and Bayesian Network. Before recognizing the data, first the data will be pre-processed using Linear Predictive Coding (LPC) for extracting cepstral coefficient that will be used as input in classifier. This system give a best micro average F1 score result, 76,67%, with Bayesian Network.

Key word: Arabic, Qur'an, LPC, Bayesian Network, Naïve Bayes