

ABSTRACT

Speech emotion recognition is a very important speech technology. In this project, Mel Frequency Cepstral Coefficients (MFCC) has been used to represent speech signal as emotional features. MFCCs is used as the input for Support Vector Machine. Support Vector Machine (SVM) has been profoundly successful in the area of pattern recognition. In the recent years there has been use of SVM for speech recognition. In machine learning, support vector machines (SVMs, also support vector networks) are supervised learning models with associated learning algorithms that analyze data and recognize patterns, used for classification and regression analysis. Given a set of training examples, each marked as belonging to one of two categories, an SVM training algorithm builds a model that assigns new examples into one category or the other, making it a non-probabilistic binary linear classifier. Many kinds of kernel functions are available for SVM to map an input space problem to high dimensional spaces. In this project we use linear kernel function. It is the simplest kernel function. The new method we proposed in this project is that we have used "SVM for linearly separable binary sets" which can distinguish between two different classes only for training, but we have taken four different classes, and so to distinguish them we have taken pairs of two different class at a time and have computed the output of both SVMclassifier. These outputs work as inputs to another SVMclassifier which gives us the desired result as one of the four classes to which it belongs. Internally all the classifiers use conditional clause which helps us in filtering the combinations which is closest any one of the training set. Experimental studies are performed over the Emotional Speech Database established by Speech Processing Lab in WCNG University of Rochester. The experiment result shows that the speech emotion recognition based on linear SVM can improve the performance of the emotion recognition system effectively.