DESCRIPTION

CNN which is used for image recognition but we have used MFCC feature of audio (which is distinctive for every audio) as image matrix for classifying the audios .Also we used SVM as another model for predicting the class by using MFCC feature of audio as our data matrix. The dataset that has been used for the proposed work has been manipulated and visualized to work on the following. For CNN Model, we have extracted 48 coefficients of MFCC feature from wav file which we used for training and testing dataset. Model has been trained for predicting the class using Convolution Neural Network. The evaluation was done using confusion matrix. For SVM Model, we have extracted 12 coefficients of MFCC feature from .wav file which we used for training and testing dataset. Columns of mean and standard deviation are used for implementing feature of predicting accurate class. Model has been trained for predicting the class using Linear Support Vector Machine, Polynomial Support Vector Machine, Radial Support Vector Machine and Sigmoid Support Vector Machine

A confusion matrix is a table that is used to describe the performance of a classification model and the classifiers used here were CNN and SVM (Linear, polynomial, Sigmoid and Radial "classifier") on a set of test data (which is our 800 sample audios which are divided into the ratio 85:15 for training and testing respectively) for which the true and real values are known and it takes into consideration how much relatively the results predicted are accurate.

For taking input from the user and showing the predicted class, Shiny Framework of Rstudio is used. The vector data structure which is used with linear classifier, radial classifier, polynomial classifier , sigmoid classifier and is stored with name xtr is used. The value from the data vector is then added on to our predictor variable which is then converted into a table format and then we add data frame onto it and plot it correspondingly using ggplot library.

**Methodical Framework**

