**EMOTION DETECTION VIA SPEECH RECOGNITION**

Emotion Detection via Speech Recognition aims at gathering information from a voiced signal and extracting all possible vocal information’s-features from the waves generated through speech. Using the information extracted and applying to them machine learning technique. We can identify the moods of a person. This can be very useful for the parents to understand the emotion of a baby or for the people who are having autistic kind of disabilities or suffering from any kind disease regarding vocals. So, the emotions of various categories of those people can be predicted by our product.

We have features like Frequency, Wavelength, Amplitude and coefficients like Mel-Frequency Cepstral Coefficient’s (MFCCs), Linear Prediction Cepstrum Coefficients (LPCC), and various formant which can be used in various combinations and then the graph can be given as an input to the machine learning algorithm that is neural network and we can train it to get a proper classification of the kind of mood the speaker is in. Based on the computation power we can choose the number of moods that are to be predicted.

Research was started in 1970’s to 1980’s, but then research was stopped because computational cost was too high at that time. Since the cost of computation is now decreased, so the research on this subject is again in boom. Research is already going on for human computer interaction so that even computer can have the ability to understand sarcasm and etc. That is indirectly teaching the device to understand human emotion. And various features ,combinations of bandwidths can be (and yet to be) used and reached till the accuracy of nearly 80%.Various classifiers like standard vector machine, KNN algorithm and many other algorithms are also subjected.

Here we create a device which interpret the audios using neural network and corresponding signal is produced which represent a particular emotion (mood) of the speaker which could be understood by the opposite person.

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