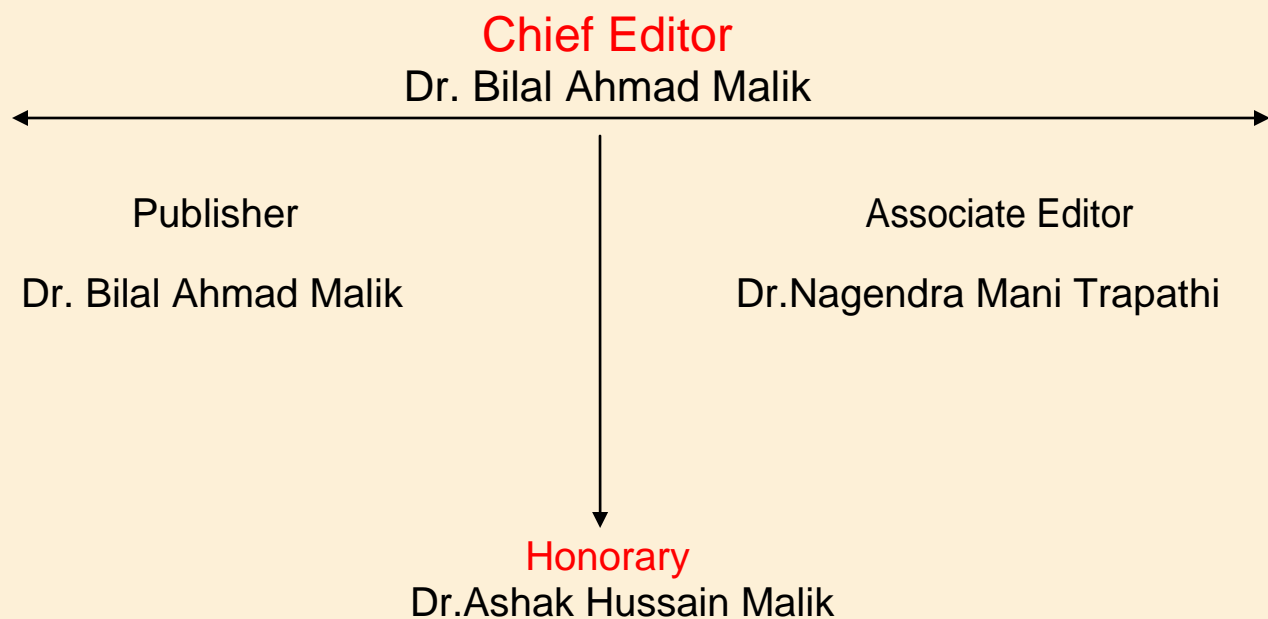# North Asian International Research Journal Consortium

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STUDY OF EMOTIONAL INTELLIGENCE TRACKER AND PREDICTOR FOR RDS: REVIEW

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ABSTRACT :

Automatic emotion recognition from voice and face has become a core discipline in machine learning and pattern recognition. From the machine perspective, recognizing the user's emotional state is one of the main requirements for computers to successfully interact with humans. The performance of human emotion recognition system can be improved my combining more input modalities for the interpretation. The emotions studied in the proposed work are neutral, happy, sad and angry. Prosodic and spectral features extracted from speech are used for discriminating the dialects and emotions. The spectral features of the speech are represented by Mel Frequency Cepstral Coefficients (MFCC) and prosodic features are represented by mode, pitch and energy contours. MFCC, as studied by earlier researchers, provide 75% efficiency results to get more efficient results is it required to use more features of the sound. MIR toolbox in Mat lab is available to extract more efficient features of the sound as used in the proposed work .This simulation tool is used to prepare the complete trained dataset which explains about the features of sounds of a particular person. The way of speaking of all the persons have the slight difference. Some persons speak very lightly in the sad mood. Some speak in the similar tone as in neutral form. Trained dataset records the way of talking of the users. This trained dataset is used to study the emotions of the users that can be further used in machine learning. This system is intended to be used during human robot interaction, and it is integrated as part of the overall interaction system of the robot: the Robotics Dialog System.

Keywords: Emotion prosodic, Spectral features, MFCC, MIR toolbox, RDS.

1. INTRODUCTION

The expression "emotion intelligence" does not yet show up in word references. The vast majority of the early research on knowledge concentrated on critical thinking on different things that were anything but difficult to find. It has for quite some time been acknowledged that different elements are vital for foreseeing somebody's

North Asian International Research Journal of Sciences, Engineering & I.T. ISSN: 2454 - 7514   Vol. 2, Issue 6 June 2016

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capacity to succeed at work and in life. This feelings knowledge incorporates the ability to screen one's own specific and others' feelings and sentiments, to partition among them, and to use this information to guide one's thinking and action. Energetic understanding addresses the eager, individual, social, and survival estimations of learning. In this paper, a calculation is created for feeling acknowledgment in the discourse preparing utilizing the dataset. Machine learning calculation is produced for better results. This work is to use further in mechanical autonomy and machine learning. With the goal that machines can comprehend what to do as indicated by the feelings of the human nature. In this paper, a calculation is produced for feeling acknowledgment in the discourse preparing utilizing the dataset. Machine learning calculation is created for better results. This work is to use further in mechanical autonomy and machine learning. So machines can comprehend what to do as indicated by the feelings of the human instinct. The feelings can be concentrated on as the investigation of versification; particularly: the efficient investigation of metrical structure. It is a specific framework, hypothesis, or style of versification. These are additionally called Prosodic elements. These components are showed up when we set up sounds together in associated discourse. It is as imperative to show learners prosodic elements as fruitful correspondence depends as much on pitch, anxiety and beat as on the right elocution of sounds.

RDS:

In this paper, the algorithm is produced for feeling acknowledgment in the discourse preparing utilizing the dataset. **Machine learning algorithm is developed for better results. This work is to use further in mechanical autonomy and machine learning. So machines can comprehend what to do as per the feelings of the human instinct. This system is intended to be used during human robot interaction, and it is integrated as part of the overall interaction system of the robot: the Robotics Dialog System.**

2. LITREATURE REVIEW

"Intelligence" did not show up in books before the twentieth century. "Insight" wasn't regular until after 1930.Generally the hints of spoken languages have been learned at two distinct levels: (1) phonetic segments of spoken words, e.g., vowel and consonant sounds, and (2) acoustic wave designs. A dialect can be isolated into a bit number of vital sounds, called phonemes (English has pretty nearly forty). An acoustic wave is an arrangement of changing vibration designs (by and large in air), in any case we are more habituate to "seeing" acoustic waves as their electrical simple on an oscilloscope (time presentation) or range analyzer (recurrence presentation). Likewise found in stable examination are two-dimensional examples called *spectrograms*, which show frequency

North Asian International Research Journal of Sciences, Engineering & I.T. ISSN: 2454 - 7514   Vol. 2, Issue 6 June 2016

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versus time and speak to the sign vitality as the figure force or shading. Daniel Goleman advanced the term *'Passionate Intelligence' in 1995* in the title of his smash hit book, *Emotional Intelligence: Why It Can Matter More than IQ*. Goleman characterized enthusiastic insight as 'Understanding one's own emotions, sympathy for the sentiments of others and the regulation of feeling in a manner that upgrades living.' Not everybody concurs with Goleman's model of passionate knowledge, yet there is general assertion that passionate insight exists, that it is a variable in individual and expert achievement, and that it can be progressed.

The distribution of Goleman's book *Emotional Intelligence* in 1995 denoted the start of enthusiastic knowledge as something that was perceived by standard business scholars and authors.

Social-psychological limits help us arrange the social world by illuminating us about the individuals with whom we interface. Out of these limitations our understandings of others' musings and feelings are foremost. Hypothesis of brain **(ToM; Wellman, 1990)** concerns our gratefulness for individuals' psychological states, for example, convictions and information. Emotion Understanding (EU) alludes to our capacity to recognize obvious passionate responses, to anticipate others' enthusiastic responses, and to admire that individuals have both tangible and private passionate encounters **(Denham, 1986; Pons, Harris, & de Rosnay, 2004).** Youthful kids' initial comprehension of feelings (e.g., essential full of feeling point of view taking) and comprehension of perception (e.g., false-conviction comprehension) are at first unmistakable limits (Cutting & Dunn, 1999), with diverse relate**s (Dunn, Brown, Slomkowski, Tesla, & Youngblade, 1991).** Then again, ToM and EU are together fundamental for adult social discernment for instance a research of shrouded feelings **(Harris, Donnelly, Guz, & Pitt-Watson, 1986)** obliges a joint comprehension of subjective and full of emotions states. Moreover, ToM and EU can be both interestingly and mutually powerful in our thinking and choice making **(Pons et al., 2004; Wellman & Banerjee, 1991).**

Eric Brill, Radu Florian, John C. Henderson, Lidia Mangu proposed that best in class dialect models for discourse acknowledgment are in light of an exceptionally unrefined semantic model, to be specific molding the likelihood of a word on a little settled number of going before words. Notwithstanding numerous endeavors to join more modern data into the models, the n-gram model remains the best in class, utilized as a part of for all intents and purposes all discourse acknowledgment frameworks. **Sameer Maskey, Julia Hirschberg in 2005** introduced aftereffects of an observational investigation of the helpfulness of distinctive sorts of elements in selecting extractive synopses of news telecasts for our Broadcast News Summarization System. Most content

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based synopsis frameworks depend upon lexical, syntactic, and positional data in figuring out which portions to incorporate in a rundown. They portrayed the element classes we use to foresee sentences to be separated and our system for selecting them, including lexical, auxiliary, and prosodic and talk highlights.

In the proposed work, **Mel Frequency Cepstral Coefficents (MFCCs)** highlight is likewise considered. MFCCs are a component broadly utilized as a part of programmed discourse and speaker acknowledgment. They were presented by **Davis and Mermelstein in the 1980's**, and have been best in class from that point onward. Before the presentation of MFCCs, Linear Prediction Coefficients (LPCs) and Linear Prediction Cepstral Coefficients (LPCCs) and were the fundamental element sort for programmed discourse acknowledgment (ASR).

Lawrence R. Rabiner proposed Hidden Markov Models and Selected Applications in Speech Recognition" **Proceedings of the IEEE, 77 (2), p. 257–286, (1989-02-09).** He attempt to care fullyand methodically review of the theoretical aspects of this type of statistical modeling and shown how they have been applied to selected problems in machine recognition of speech.

K Sreenivasa Rao and **Shashidhar G Koolagudi** "**Identification of Hindi Dialects and Emotions using Spectral and Prosodic features of Speech**", SYSTEMICS, CYBERNETICS, School of Information Technology, Indian Institute of Technology Kharagpur, Kharagpur - 721302, West Bengal, India. They have explored speech features to identify Hindi dialects and emotions. A dialect is any distinguishable variety of a language spoken by a group of people. Emotions provide naturalness to speech. In this work, five prominent dialects of Hindi are considered for the identification task. They are Chhattisgarhi (spoken in Central India), Bengali (Bengali accented Hindi spoken in Eastern region), Marathi (Marathi accented Hindi spoken in Western region), General (Hindi spoken in Northern region) and Telugu (Telugu accented Hindi spoken in Southern region).

Greg Cox proposed On the **Relationship Between Entropy and Meaning in Music**: An Exploration with Recurrent Neural Networks. He described, current neural network model which produces estimates of instantaneous entropy for music with multiple parts and use it to analyze a Haydn string quartet .Features found by traditional analysis to be related to tension are shown to have characteristic signatures in the model's entropy measures. Thus, an information based approach to musical analysis can elaborate on traditional understanding of music and can shed light on the more general cognitive phenomenon of musical meaning.

M. Chinna Rao, A.V.S.N. Murthy, Ch. Satya Narayana published **Emotion Recognition System Based On Skew Gaussian Mixture** Model and MFCC Coefficient published on *I.J. Information Engineering and Electronic Business*, **2015, 4, 51-57**. They used Skew Gaussian mixture model. The proposed model has been experimented over a gender independent emotion database. In order to extract the features from the speech signals cepstral coefficients are used. The developed model is tested using real-time speech data set and also using the standard and data set of Berlin. This model is evaluated in the presence of noise and without noise the efficiency of the model is evaluated and is presented by using confusion matrix

3. METHODS AND METHODOLOGIES

MIRtoolbox:

MIRtoolbox offers an incorporated arrangement of capacities written in Matlab, devoted to the extraction from sound records of musical components, for example, tonality, rhythm and other measurable investigation on signals. This tool stash proposes a huge arrangement of musical component extractors. MIRtoolbox is a Matlab tool stash devoted to the extraction of musical components from sound documents, including schedules for measurable analysis. The target is to offer a review of computational methodologies in the zone of *Music Information Retrieval.* The outline is taking into account a secluded structure: the diverse calculations are disintegrated into stages, formalized utilizing a negligible arrangement of rudimentary instruments. These building squares frame the essential vocabulary of the toolkit, which can then be openly explained in new unique ways. These rudimentary components coordinate all the distinctive variations proposed by option approaches - including new methods we have created, that clients can choose and parameterize. This engineered review of highlight extraction instruments empowers a promotion of the innovation offered by all the option techniques. Furthermore to the essential computational procedures, the toolkit additionally incorporates more elevated amount musical element extraction devices, whose option methods, and their numerous mixes, can be chosen by the client. MIRtoolbox is taking into account a situated of building hinders that can be parameterized, reused, reordered etc.

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4. CONCLUSION

MFCC offers a description of the spectral shape of the sound. The frequency bands are positioned logarithmically (on the Mel scale) which approximates the human auditory system's response more closely than the linearly-spaced frequency bands. This features as studied earlier are also considered in the proposed work are not providing good results. From the features extraction from the sound using MIRtoolbox a machine can find the differences between the speech of the person in contrast to his emotion. This work is proposed to be used by machines to understand what a person wants exactly to be performed. The comparison between basic concepts of emotions (happy, sad, tender, anger, fear) and emotion dimensions (activity, valence, tension).The pitch values for the neutral and sad emotions are likely to be same. Entropy values for the angry sounds are higher as compared to sad and neutral emotions. Way of speaking of all the persons have slight difference. Some persons speak very lightly in sad mood. Some speaks in the similar tone as in neutral form. Trained dataset records the way of talking of the users. This trained dataset is used to study the emotions of the users that can be further used in machine learning.

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