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Sentimental Analysis on Audio and Video

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Abstract - *Audio & Video Sentimental Analysis using Automatic speech Recognition and scenario and behaviour detection is an emerging Research area where opinion shown by an entity is explored from natural audio and video. There has been some exploration on base of audio sentimental analysis but the video sentiment detection is relatively under explored. Different algorithm which are used to tag the audio feed with the text. Similar algorithms can be used further to detect the scenario and behaviour of the entity on the video feed. After video and audio feature extraction the extracted the data can be used in basic text sentiment detection. From audio most descriptive keywords can be used to extract the sentiment. And the video feature extraction will help in reducing the wrong data. Several individual databases are created to extract the data from several social sites.*

Key Words*: *Sentiment Analysis,Opinion, UT-Sentiment Audio Archive

1. INTRODUCTION

In today's day to day life the tremendous amount of data is generated per second and making any sense out of that data is a monotonous task. It is very important to note that sentiment detection using text is an area of research, and significant attention has been given to product reviews, we focus our attention on dual sentiment detection in videos and audio based on text analysis.

We focus on videos because the nature of speech in these videos is more natural which makes sentiment processing challenging. In Particular, automatic speech recognition (ASR) of natural audio streams and text spoke in audio is difficult and the resulting transcripts are not very accurate. The difficulty stems from a variety of factors including noisy audio due to non-ideal recording conditions, foreign accents, spontaneous speech production, and a diverse range of topics.

Our approach towards sentiment extraction from audio and video. For text-based sentiment extraction, we propose a new method that uses POS (Part-Of-Speech) tagging to extract text features to predict the separation of the sentiments (positive or negative) using the text features.

An important characteristic of our method is the ability to identify the individual contributions of the text features towards sentiment estimation. We evaluate the proposed sentiment estimation on both publically available text databases and videos. On the text datasets, This provides us with the capability of identifying keywords/phrases within the video that carry important information. By indexing these keywords/phrases, retrieval system scan enhances the ability of users to search for relevant information.

1.1 Problem Statement

Achieve Sentimental analysis over audio and video reviews of Products on social media.Social sites like Youtube ,Facebook, Twitter contain a lot of unprocessed reviews that go unchecked for sentimental analysis.

2. LITERATURE SURVEY

[1]Comparative Study of Machine Learning Techniques in Sentimental Analysis, Bhavitha B K, Anisha P Rodrigues and Dr. Niranjan N Chiplunkar,2017

The paper presents a detailed survey of various machine learning techniques and then compared with their accuracy, advantages, and limitations of each technique. This paper includes an outline of current works done on sentimental classification and analysis. A more innovative and effective techniques required to be invented which should overcome the current challenges like the classification of indirect opinions, comparative sentences, and sarcastic sentences.

[2]Audio and Text-based Multimodal Sentiment Analysis using Features Extracted from Selective Regions and Deep Neural Networks, Harika Abburi,2017

While developing multimodal sentiment analysis, instead of taking entire input and extracting several features from the toolkit, they identify selective regions of input and experiment is performed on those regions by extracting specific features. In this paper, the selective regions concept is not applied to deep neural network classifiers because of less data. The performance of deep neural networks is depend on the amount of training data. In this work the main focused only on two modalities text and audio. The performance can be improved by combining these two modalities with video modality.

[4]Sentiment Analysis on Speaker Specific Speech Data, Maghilnan S, Rajesh Kumar M,2017

This work presents a generalized model that takes audio which contains a conversation between two people as input and studies the content and speakers' identity by automatically converting the audio into text and by performing speaker recognition. It has some flaws, right now the system can handle a conversation between two speakers and in the conversation only one speaker should talk at a given time, it cannot understand if two people talk simultaneously. Our future work would address the issue like only one speaker should talk at a given time, it cannot understand if two people talk at the same time and improve the accuracy and scalability of the system.

[5]Large-scale Affective Content Analysis: Combining Media Content Features and Facial Reactions, Mohammad Soleymaniand Daniel McDuff 2017

This paper mainly focuses on a novel for affective content analysis, they combine the basic audio, visual and deep visual sentiment description from different media content with automated face action measurements from the naturalistic response to media. In that, they mainly focus on affective video content analysis to predict the response elicited in viewers by content. For emotional content analysis, they use deep learning. They used a convolutional neural network for generating the adjective-noun pairs. For face detection code they use the automated software, which extracts different feature, SVM is used to classify the different facial action. They used Principle component analysis(PCA) to reduce the dimensionality of media. They introduce facial action feature so because of that error rate will be reduced by 23%.the given model have an accuracy of 63% and a weighted score of 0.62.

[6]Comparative Analysis of Sentiment Orientation Using SVM and Naïve Bayes Techniques, Shweta Rana and Archana Singh,2016

This paper mainly focuses on a sentimental analysis of film's user reviews which contain positive and negative reviews. In data collection and pre-processing model they identified user reviews and detect opinion and unnecessary data are removed from that. In the mining model, Naive bayes and linear SVM is used for classification of a dataset. this model is trained to check the performance.T hey use the dataset, name as,' Internet Movie Database(IMDb)'. They use" Porter stemming algorithm" is a process for removing suffixes from words in English. For evaluation, they use confusion matrix, from that they calculate accuracy, precision, recall. They used rapid miner software. The sentiment orientation describes that the user prefers to watch a drama type of movie. The graph shows the polarity of the different words. The future scope of the work is that we can explore our data to a wider genre of different products on social networking sites or e-commerce as day by day the user is moving online and they prefer buying stuff online so we can identify the accuracy rates of the products like books, games etc.

[7]Onto-based sentiment classification using Machine Learning Techniques, Ms.K.Saranya, Dr.S.Jayanthy, 2017. In this paper, the use of semantics and ontology for text classification is combined with machine learning. The input text is given in the form of the word or a sentence or a document that separate the user emotion or feedback or review is given to the Natural Language Processing Toolkit (NLTK) and the features of the text are extracted. In emotional word extraction, WordNet is used for emo words extraction using the synsets in WordNet. An Ontology is being created based on the domain of analysis which gives the semantic meaning and relationship among the words. This ontology creation paves the way to add new emotion words too for better classification of the input text. The words that are being categorized by ontology used to train the Machine Learning Algorithm and thus classify each sentiment into two classes as positive and negative sentiments.

[8]Image Sentiment Analysis Using Latent CorrelationsAmong Visual, Textual, And Sentiment Views, Marie Katsurai and Shin'ichi Satoh,2016

In this paper, a novel image sentiment analysis method that uses latent correlations among visual, textual, and sentiment views of training images. In the proposed method, the first extract features from pairs of images and text to construct visual and textual views. they introduce an external sentiment knowledge base, Senti-Word.Net, which forms the sentiment view. Using a framework of multi-view canonical correlation analysis (CCA).They calculate a latent embedding space in which correlations among the three views are maximized.

3. BLOCK DIGRAM:

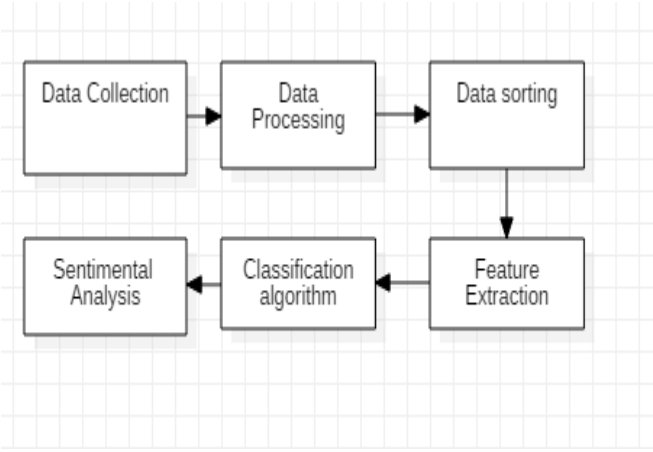

Fig-1: Block Digram of Proposed System

In the proposed system, we collect data from different social sites. depending upon the data such as audio and video, they are divided for further processing.system uses Videos as a source for Analyzing the content for sentiments. From Video Audio and Images Will be Separated to be Processed. Audio Will be converted to a Script and video will be converted to emotions detected, after that it will make a script. Both scripts are tagged and this feature is sentiment using different classifier and finally sentiment detection is done which gives output in text format.

3. CONCLUSION

Our purpose of this research work was to establish a flexible, economical, easily configurable and most importantly,a portable system. It is a robust system and maintains the accuracy of the Social product reviews.Our proposed system for Sentimental analysis comes under the field of machine learning of AI. Our main objective was to achieve sentimental detection over audio and video with high accuracy. This analyzing feature can also help us in the analysis of audio and video review. Nowadays audio and video monitoring is vital in many social sites like facebook, tweeter, youtube etc. Using our system we can analyze the usage and also detect the Opinion in a particular product.

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