**Literature Survey**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sl No | Author and Year | Paper Topic | Limitations | Proposed Solution |
| 1 | Peng Zhou,  Wei Shi, Jun Tian,  Zhenyu Qi, Bingchen Li  2013 | Attention-Based Bidirectional Long Short-Term Memory Networks for  Relation Classification | Unable to define related  Dependencies in features. | Accurately describes a new algorithm for Classification keeping in mind the different tags to be classified using gates. |
| 2 | Jeffrey Pennington, Richard Socher, Christopher D. Manning, 2014 | GloVe: Global Vectors forWord Representation | No relative testing done on algorithms. No specified dataset ready for immediate use. | Defines a new standard in terms of the word quantization required in classifying a sentence |
| 3 | Erik Tromp,  Mykola Pechenizkiy,  2014 | Rule-based Emotion Detection on Social Media:  Putting Tweets on Plutchik’s Wheel | No definite tagging introduced to classify emotions and dependencies. | Describes a procedural approach to detecting emotions in tweets by tags using a defined dataset. |
| 4 | R.Anish Menon,  Anurag De,  B.Priyanka Reddy, B.Sukanya  2016 | Various approaches for human emotion recognition: a  Study | No information about processing. | Discusses the many possible approaches of classifying emotions with several methods to identify dependencies. |
| 5 | Jelena Milosevic,  Dexmont Pe˜na,  Andrew Forembsky,  David Moloney,  2018 | Reporting Accuracy, Inference Time and Power Consumption  for Face Emotion Recognition on Embedded Systems | Does not mention any direct correlation with emotions. | Describes an approach to process information using specified hardware. |

**Limitations of Existing System**

* Several systems which are capable of making intuitive decisions are available which make decisions based on APIs or modules connected to the internet. These systems however require a constant internet connection with limited capability offline and do not allow learning in the offline mode.
* These systems also have a general overall use case related to families with limited personalization which have constraints on learning behaviour and patterns. The conditions are also rigid and do not provide a flexibility in learning, this is attributed to several home or environment conditions which have a strong influence.
* The existing system must be connected to the internet and has limited activity offline. Most decisions fall onto the hardware and do not allow the full utilization of the machine.
* Most intelligent agents available today do not contain emotion based decisive or chat systems which enable offline chat for personalization. A machine understands instructions in the literal sense and does not allow the instruction to have a meaning.
* Personalization is limited. A user is just another session in the machine.

**Research Gap and Research Challenges**

* In real life scenario, facial expressions and emotions are nothing but responses to the external and internal events of human being. In human computer interaction, recognition of end user's expressions and emotions from text plays very important role. In such systems it is required to track the dynamic changes in human tones quickly in order to deliver the required response system.
* An important consideration is how often and how fast this feedback should be given. The textual feedback directly adapts to each processed emotion unit. If an emotion is directly repeated, the intensity of the textual expression increases. After a random number of repetitions, verbal feedback is given. However, outliers that is e. g. a single occurrence of boredom in a long sequence of recognised joy, are ignored.
* Systems also have a general overall use case related to families with limited personalization which have constraints on learning behaviour and patterns. The conditions are also rigid and do not provide a flexibility in learning.
* The best tools have an accuracy of 75% for some document types (tweets), but the average accuracy over all documents is at best 60%. Surprisingly, the accuracy decreases if texts get longer, which is due to the decline in the ability to detect “other” sentiments. As an aside, the existing sentiment corpora are prone to error, with error rates up to 15% per corpus.