Mental health chatbot with emotion detection

Proposal

Group Number: G4

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1. Problem formulation

So many people are suffering from disorders that affect their mood, thinking, and behavior.
We need to stop questioning the existence of people who suffer from some kind of mental dysfunction and start supporting them by listening to their problems by developing modern Ai solutions like chatbots that can interact based on emotions.

2. Methodology

We will develop a chatbot model that will be trained to interact with users and help them in an efficient way.

We suggest the following models and techniques deal with this problem

- we will develop a Sentiment analysis model and we will combine it with our chatbot model.
- we suggest different Classification models train the Sentiment analysis model like a random cut forest, naive Bayes, and decision tree.
- we suggest different models train our chatbot like LSTM, and GRU.
- through this process, we will use many libraries like NLTK, LSTM, Dense, Random Forest ...etc
- and we will use different tokenization techniques like: BOW, TFIDF... etc

3. Dataset

for the chatbot dataset, we will use a conversational dataset.

we will use the dataset for Chatbot from the following link

[https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3768304] and for sentiment analysis, we will use a normal text dataset.

we will use the dataset for Sentiment analysis from the following link

[https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3768304]

4. Evaluation

We will test our chatbot model by using different metrics like:

- Measuring a chatbot's Activity Volume
- CHATBOT RESPONSE VOLUME
- Satisfaction rate: we will try to measure the accuracy of how successfully the chatbot deals with the user?

5. Expectations

we expect this chatbot system to help the user by understanding the user's emotions with help of the sentiment analysis model and as a result of that the chatbot will do some action (either suggesting a song or movie) or talk more to the user and try to Entertain him.