

Q1. Define suggestion mining in your own words.

→ The extraction of sentences which contains suggestion from an unorganized text, where the word suggestion refers to something like an advice, recommendations, etc. is known as Suggestion Mining. These suggestions are produced when the sentence is explicit in nature and contradicts to sentences which are implicit in nature.

Q2. Explain a use case where suggestion mining could be useful.

→ Online Reviews for Hotels: - In hotel reviews, suggestions could be for improvement of room service, lunch menu, dinner menu, online written reviews, staff members and many more factors. If a person

writes a good review for a particular hotel room, "I would recommend you to visit this hotel, Good service", suggesting that this particular hotel has good reviews from other people, so that other people can visit this hotel because of its good service.

Q3. Give any two challenges involved in the suggestion classification task with short explanation.

→ 1. Figurative Expressions: - This type of challenge involves a figurative use of the language in it for the sentences from sources like social media, Radio, etc.

For example, "How much is this dress? – It is expensive for you!"

Here, this sentence sounds more sarcastic instead of a suggestion. So, the sentences which are in the form of suggestions may not always be a suggestion.

2. Context dependency: - Here, the sentence is dependent on the base of context used for it. The context decides whether the sentence is a suggestion or not.

For example, "We will need a warm jacket in December because of the decreasing temperature."

Here, this sentence is giving a suggestion – we will need a warm jacket in December; and also contradicts stating that – because of the decreasing temperature we will need a warm jacket,, which is not a suggestion.

Q4. Explain implicit and explicit suggestions in your own words along with an example for each.

→ Implicit Suggestion: - Implicit suggestion is referred to some sentence which is understood but is not clear, i.e. some sort of confusion and ambiguity is present in the sentence. It is based on assumption or the idea which do not have a clear meaning or a question.

Eg2. "Everybody should not buy it but it is a nice hair product."

Here it is suggestion that the hair product is good but also adding ambiguity by saying everybody should not buy it. The suggestion here is implicit i.e. there is sort of confusion, so one cannot rely on this sentence because of its ambiguity.

Explicit Suggestion: - Explicit suggestion is referred to some sentence which is understood very clearly and has its clear meaning. This is a type of statement which is not based on any type of questions and any ambiguity.

To have a more clear understanding of explicit and implicit suggestions is that they have different words in the same contexts.

Eg1. "Everybody should buy it as it is nice hair product."

Here it is suggesting that the hair product is good and everybody should buy it. The suggestion here explicit i.e. clear about the product and its review towards the product.

Q5. Is the following sentence a suggestion: "I would not travel to the USA during the pandemic?" Why or why not?

→The given sentence is not a suggestion. Here, this sentence is stating that the person will not travel to USA during the pandemic, so this is a statement which is stating a clear meaning without any ambiguity, question mark or confusion. These type of statements are referred to explicit suggestion because of its clarity.

Q6. Give an example where more context for a sentence could possibly turn a non-suggestion into a suggestion?

→(1) Hair product has silicones in it.

(2) Hair product has silicones in it, which makes hair shiny and thick.

Here, the first sentence is a simple sentence where it is not giving any suggestion while in second sentence it is suggesting that it is good and thus makes hair shiny and thick.

Q7. For one crowdsourcing platform, state the advantages and disadvantages of such a platform.

→Amazon M-Turk platform: -

Advantages: -

- 1) There can be many research methods possible which uses MTurk platform.
- 2) The data collected from M-Turk is very significant and relevant and information given is rare as compared to the data which is collected from other sources.
- 3) M-Turk students have the data which is more broad and wide-ranging.

Disadvantages: -

- 1) The M-Turk workers are not highly educated, less religious and unskilled than the other workers.
- 2) Workers from particular groups could be underrepresented on MTurk in comparison to the overall population.

Q8. How is inter-annotator agreement used for the suggestion mining task?

→ The inter-annotator agreement is used when there are more annotators but still gives the same annotation decision for a certain category. IAA analyzes the clarity of the annotations, the consistency and the repetition of annotators work. There are two types of IAA: -

- 1) Cohen's: - 2 different annotators assigning one category to each case.
- 2) Fleiss': - Each occurrence was tagged with one category for n number of times.

Q9. How will you evaluate a text classification model on a benchmark suggestion classification dataset?

→ The following are the 5 factors on which a text classification model is best evaluated.

- 1) Accuracy: shows the percent of correct predictions
- 2) Confusion matrix: A confusion matrix is a 2x2 matrix which shows, which calculates true positive, false positive, true negative and false negative.
- 3) Precision and recall: Precision measures how accurate our model is and how well our model is predicting positive class is measured by recall.
- 4) F1 score: It is the average of Precision and Recall.
- 5) Sensitivity and specificity: It is the true positive rate and specificity is also same as sensitivity but measures in negative class.

Q10. Suggest one other text classification task similar to suggestion mining. Does it need an annotated (supervised) dataset?

→ Other text classification task similar to suggestion mining is language detection. This classification method detects the language that is used in the data and then performs various operations on it. For example, if the text data is in English it detects English language and if the text data is in German language then this classifier detects the German language. This classifier is used in technologies like – Siri, Alexa and Cortana. Therefore, language detector needs an annotated dataset.