Chatbot

Kaushik Manjunatha - kmanju2s
Prabhudev Bengaluru Kumar - pbenga2s

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1 Overview

A chatbot is an application that will perform an online conversation using natural language via text or speech in providing information to humans.
A chatbot is usually used for interactions between machines and humans. If we think technically, it is a question answering system that gives responses in a natural language by using Natural Language Processing (NLP).

2 Dataset

A corpus containing conversations that are extracted from raw movie scripts. This dataset contains information regarding movie metadata which are release year, genres, IMDB rating, number of votes, etc.
Dataset : Cornell Movie-Dialogs Corpus [1].

3 Techniques

- Tensorflow: It is a open source library which is used for training neural network model.
- Seq2seq model: This model will help the neural network which takes input sequence to learn and predict the output sequence.

4 Evaluation strategy

Once our model is trained, we are planning to chat with the chat bot by asking questions and we will check the generated response to see whether our chatbot is predicting the relevant responses based on the trained dataset.

The generated response will be evaluated based on the metrics: avoiding repetition, making sense and engaging.

- Avoiding Repetition: We will check whether the generated response is not repetitive.
- Making Sense: Whether the generated response is grammatically correct, not a gibberish response.
- Engaging: How the chat bot will make the user engaged in the conversation.

5 Milestones

- Data preprocessing
- Learning relevant tools for implementation
- Implementation of model
- Evaluating of performance based on the generated response from the chat bot

References

[1] C. Danescu-Niculescu-Mizil and L. Lee. Chameleons in imagined conversations: A new approach to understanding coordination of linguistic style in dialogs. In *Proceedings of the Workshop on Cognitive Modeling and Computational Linguistics, ACL 2011*, 2011.