

Trojan Bot - Amazon Alexa Prize 2019

Novelty Document

We feel, that the use of the personality matrix to classify dialogs and their intent among personality types would be the novel element of our approach. Due to the exponential amounts of data available from people of varying personality, we expect multiple candidate responses for every dialog in the conversation. Choosing the best one is the major challenge we face to make the conversation engaging. Different people will like to hear different candidate responses, that suits their personality. Similarly, there are candidate topics to make transition to during the conversation.

Instead of creating a universal ranking mechanism to pick out of the candidates, that may suit the majority of audience, we intend to associate a personality feature to every conversation dialog so that we may be able to cater all with a more personal touch. Though this adds extra processing of another feature, but we expect this approach to fasten the response rate by selectively traversing through subsets of the entire knowledge graphs. In totality, we expect that adding the personality component to the conversation will make it more engaging and faster. This will also make our approach scalable and give us the flexibility to cater to even larger sets of data.

We also intend to use the BERT transformer encoder in our dialog manager for intent classification and sentence prediction. Industry researchers attribute it to be the best NLP model so far with the following improvement standards: The fine-tuned BERT model for different datasets improves the GLUE benchmark to 80.4 percent (7.6 percent absolute improvement), MultiNLI accuracy to 86.7 percent (5.6 percent absolute improvement), the SQuAD v1.1 question answering Test F1 to 93.2 (1.5 absolute improvement), and so on over a total of 11 language tasks. We intend to leverage BERT for accurate intent detection and response generation.