CHATBOT

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Abstract:

Chatbots are the next generation of human-level artificial intelligence. Bots will help minimize the time and improve the efficiency of the human workloads. Chatbots are still getting improved it needs more data to train and improve accuracy. The aim of this research is to improve the accuracy of the chatbot by implementing a deep learning algorithm which will help it to understand humans' intents in order to generate a proper response with the right content to the human. Comparing both bots with and without deep learning, to see the accuracy and improved performance.

Introduction:

Chatbots planning a major role in ecommerce industry. Most of the companies can't afford 24/7 support to the customer. The chatbots are cost effective and smart. Resolving, User Queries like support, FAQ's also Helps users to find product. There are so many platforms out there to build the chatbots, some of them are opensource.

Chatbots mainly depending on NLP (Natural Language Processing). That will be used to understand the user intention and extract the entities from the context. Complex scenarios can be built using the chatbot platforms. Training and building model need huge set of data. There are opensource data specific to domain like support, booking, ecommerce, etc.

Chatbots not limited to one single human speaking language. There are lot of user base with different languages. Need to train the chatbot with multiple languages. Most of the commen programing used the build the chatbot is python, still community's from different programming languages tying to improve the support of AI/ML, Which will help build complex model.

Background:

Chatbots are developed using dialog engine. Intent classification, Entity recognition will take the information from the input. chatbot conversations are prefect because the chatbot engine, Chatbots can do successfully carry out stock calculations, orders, and payments. The compression between the two bots and calculate the accuracy.

Methods:

I'm planning to research on existing chatbots and analyses the drawbacks. Collect the research corpus data questions and answers to train the model. Planning to use python to build the model, a server to write a wrapper in Node JS for webhooks to consume in DialogFlow (Google's Chatbot Building Platform). To implement deep learning within the chatbot, I am planning to use TensorFlow and Keras.

Building the Chatbot System:

Input:

Every information input is given an identifier as association and timestamp which capacities to recognize inquiries from various clients and maintain a strategic distance from numerous inquiries on a similar client.

Parsing Data:

The subsequent stage is a procedure to decide if the inquiry has been detailed as per the language structure rules of the question in the information base of chatbot should be done in a manner to break the question arrangement entered by the client. This is applied consecutively to separate data that is valuable to help become a simple and productive procedure.

Pattern Matching:

The third stage, done example coordinating, where the inquiry example will be grouped into three sorts of messages, to be specific general inquiries, check the staying stock, while requesting and installment are ordered into the computation procedure.

Each discussion made by the client has been given association recognizable proof factors and timestamp which is utilized as an apparatus in the capacity procedure. For every association, the worker stores the most recent timestamp into the table. The worker stores worldwide factors that permit it to erase old timestamps that plan to process client demands in posing inquiries from the arrangement of inquiries characterized in the information base of chatbot.

Backend:

Python and NodeJS backend with TensorFlow and Keras.

Storage:

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Response Result:

At this phase, the consequences of the chatbot framework reaction are shown on the UI. At this stage, channels are additionally completed on the aftereffects of various reactions from various sorts of inquiries.

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