LITERATURE SURVEY
ON
SMART FASHION RECOMMENDER APPLICATION

PAPER - I

TITLE: E-COMMERCE ASSISTANT WITH A SMART CHATBOT USING AI

AUTHORS: Manik Rakhra, Gurram Gopinadh, Shaik Aliraj, Sai Addepalli,Gurasis Singh, Siva Ganeshwar Reddy, Navaneshwar Reddy.

YEAR : 2021

E-Commerce cannot be held aside, particularly as it is the product of this growth. In the present Era most of the people have a smartphone with quick messaging and networking applications. A chat bot, is a piece of software that uses "quick messaging as the Program Interface" and allows customers to add the bot's name to their list in the same way they add contacts and colleagues

Here the proposed methodology is about The major efficiency of using chatbots is automation of mundane tasks, like immediate answers when asked questions repetitively for different type and variety of customers. The application(chatbot) just by knowing their query in the chat section; it detects the keywords and gives appropriate reply to the users looking for a solution. In order to define the intent and contexts of the user input, the NLU uses artificial intelligence. The user's purpose produces a suitable answer. The knowledge base describes the chatbots that the NLU produces and maintains, and that the domain corpus is used for building the knowledge base. The feedback can be provided in form of text or speech to the chatbot. The submission is submitted to the conversation that is the NLU, which selects a suitable response and takes part in the chatbots status to execute the requested action.

This paper is intented to introduce a chatbot that uses AI to understands how users react more effectively and able to react more like humans to produce better result. This chatbot stores a variety of answers, but can also consider intricate user feedback and hence includes appropriate answers and product recommendations. So this research will propose Chatbot system to render the customer services on ecommerce.

PAPER - II

TITLE : SMART CHATBOT SYSTEM FOR E-COMMERCE ASSITANCE BASED ON AIML

AUTHORS: Arif Nursetyo, De Rosal Ignatius Moses Setiadi, Egia Rosi Subhiyakto

YEAR : 2018

Currently, the conventional market is starting to be replaced with many online markets. The tight online market competition demands excellent service from sellers to buyers, so many online stores provide full 24-hour service. This service certainly requires a lot of money if done manually. This study proposes an intelligent chatbot system based on Artificial Intelligence Markup Language (AIML) which can be used as an e-commerce assistant

Here, Data parsing is done is to determine whether a string / syntax of the query to be checked has been formulated in accordance with the syntax rules of the query in processing user requests. Four stages carried out in this parsing methodology. 1. Case folding 2. Tokenizer 3. Filtering 4. Stemming. AIML is used because this algorithm contains a collection of patterns and responses that can be used by chatbot to trace answers to each sentence given in various programming languages so that the process of making chatbot can focus on the preparation of AIML documents. First data input query from user is taken and The second stage uses a converter module, where the previously processed text is forwarded to the converter to consider the first turn as a pattern and the second as a template and continue by deleting all punctuation marks from the pattern and turning them into letters. The third stage, done pattern matching, where the question pattern will be classified into three types of messages, namely general questions. At stage four, results from pattern matching enter into a context vector for crawling data on the chatbot knowledge base Finally results of the chatbot system response are displayed on the user interface.

This study successfully built an intelligent chatbot system based on AIML in the Telegram application for E-commerce assistants. Input requests from users are carried out in three main processes, namely parsing, pattern matching, and data crawling. This paper has produced 100% response accuracy by testing using correct and formal words and sentences

PAPER – III

TITLE: DEVELOPMENT OF AN E-COMMERCE SALES CHATBOT

AUTHORS : Mohammad Monirujjaman Khan

YEAR : 2020

The rise of e-commerce over the past 2 decades has had a major impact on society and the way business is done on a global scale. Users have become more reliant on e-commerce than ever before in recent years. There's one visible downside about using e-commerce as a means to sell your products: some customers are wary of not having direct face to face contact with a sales representative. One of the major challenges of building an automated customer support system is categorizing natural language. Several researches have been conducted on this topic.Androutsopoulos, G. D. Ritchie and P. Thanisch have shown different methods of natural language inferences to databases.

The main focus of the project is to develop a modular chatbot architecture so that accuracy can be improved, new features can be added easily. Many engines such as NLU, recommendation, adaptive pricing, are utilized here. The main modules are input handler, NLU router, middleware, controller, response hadler and output handler.The input handler receives input from multiple platforms (like facebook, slack, telegram, websocket etc.) and processes it for the NLU router.The NLU router collects user input and classifies input data using NLU Engine. Based on the classified input, it executes the controller. The middlewares are wrapper over controllers, it can prepend or append features and modify controller response. The response handler generates responses based on demographic. The controller selects response type, based on user data, user sentiment and response type the Response Handler generates the response. Like the Input Handler, the Output Handler prepares the response data for the user platform and delivers the response.

The reason for building such a modular system is to make the system available to more platforms. This present NLU engine trains its classifier from the classified training data provided by the admins.

PAPER – IV

TITLE: KNOWLEDGE-AWARE MULTIMODAL FASHION CHATBOT

AUTHORS : Lizi Liao , You Zhou , Yunshan Ma , Richang Hong , Tat-Seng Chua

YEAR: 2018

By offering an interactive and natural way for information seeking,multimodal chatbots are attracting increasing attention. The chabot can take data in the form of text and image as well.. Generally speaking, the system accepts multimodal utterances and then classifies user intentions to our predefined intention classes. The form of response (whether textual, visual or both) is also decided.

The primary modules include indentation identification, Semantic parser and knowledge component training. User intentions in our model are classified into 10 categories: greeting, showing similar item, showing orientation, asking attribute, changing attribute, suited-for etc. We train our LSTM model for intention classification using the dataset published in, which consists of over 150K conversation sessions between shoppers and sales agents. We extend their intention categories to match with our scenarios. Regarding the intention classification performance, our LSTM model manages to achieve a precision score of 91.23%. We perform three steps in our semantic understanding: taxonomy positioning, image feature extraction, attribute detection. We use a dictionary to detect whether a utterance contains a category concept in our taxonomy. For image input, we use a taxonomy-based fashion concept learning model to understand the semantic information of the input images, and further recommend similar products to users. Knowledge component training is done in two stages: prior work of predicting a generated target utterance and we initialized the policy model using the extended HRED model trained during the first stage. Each response turn in the dataset was treated as a target and the concatenation of five previous utterances were treated as context. In the second stage, following the popular strategy in deep reinforcement learning training, we initialized the policy model using the extended HRED model trained during the first stage.

In this work, the knowledge enriched multimodal fashion chatbot that is specifically designed to help users in searching for products and matching styles is presented. This also gives customers more options to choose from as it also gives the ability to choose from an image the customer has.

PAPER – V

TITLE : AN E-COMMERCE WEBSITE BASED CHATBOT

AUTHORS: Deep Borkar, Chevelyn De Mello, Saurabh Patil

YEAR : 2015

A chatbot or chat bot is a computer program designed to simulate an intelligent conversation with one or more human users via auditory or textual methods. Chatbots can be programmed for small talk, or can also serve as a medium of interaction with users, providing them with answers based on regular questions. The chatbot understands context and delivers a response based on the message given to it. Chatbot is one of many examples of AI. Chatbots were initially designed as means of entertainment and some of them have been designed to pass the Turing Test.

The chatterbot utilizes Rive script, to fetch responses based on user input. Rive script is a simple scripting language for giving intelligence to chatbots and other conversational entities. It's a plain text, line-based scripting language with goals of being simple to learn, quick to type, and easy to read and maintain. When a trigger that contains an object macro is called, the response is parsed and then executed by the Interpreter's Java script Object handler. The response makes an AJAX request to the PHP page, and on receiving a response, displays it within the chat window. This response contains a hyperlink to the respective product pages of the suggested products.

A website based chatbot that attempts to improve User Interaction with the E-Commerce website. The chatbot has a stored set of responses, but also takes dynamic user input into account and thus tends to provide relevant responses and product suggestions. Since the product database is independent of the stored responses, newer products under the respective category can be easily added and removed and require no modification of the stored chatbot responses.

PAPER – VI

TITLE: RECOMMENDENCE AND FASHIONSENCE

AUTHORS: Sapna Ria Chakraborty, Anagha M ,Kartikeya Vats,Khati Baradia Tanveer Khan ,Sandipan Sarkar,Sujoy Roychowdhury

YEAR: 2015

Artificial intelligence (AI) based recommendation systems are commonplace for many years now, recent trend being conversational recommendation systems[2]. However, the fashion domain is unique given the tastes and preferences of individuals are different but at the same time each individual is influenced, in a greater or lesser degree, by fashion trends. In addition, fashion is often about combining various items together to present a look. A fashionable look is unique in that, although it consists of multiple items suggested together, they cannot be identified using traditional co-purchase based analysis - instead a fashionable look needs to be learned based on an aesthetic sense as well as inputs from various sources like style magazines, social media etc.

This component is responsible for inducing the Fashion Sense into the solution. The name is a combination of Fashion Sense and Artificial Intelligence, which attempts to generate a style compatible outfit from a given item's image. To achieve this, we model the style compatibility relationships encapsulating both visual and style attributes, without making them available explicitly. The solution leverages a Convolutional Recurrent Neural Network, the Inception Network [6] for feature extraction and Bi-Directional LSTM based Recurrent Neural Network for learning the compatibility.

Our product is able to provide fashion recommendations to replicate the offline experience in the online world as much as possible. For deployment the model will need re-training and Fashionsence may need style database consisting of items which better represent items housed in the inventory of the e-commerce client. Also, the outfit information to be used in the training process should reflect the desired fashion trends. Further enhancements include an end to end training architecture in the Fashionsence component including the deep learning and LSH modules for better performance.

PAPER – VII

TITLE: INFORMATION SYSTEM FOR RECOMMENDATION LIST FORMATION OF CLOTHES STYLE IMAGE SELECTION ACCORDING TO USE

AUTHORS : Vitaliy Husak , Olga Lozynska, Ihor Karpov, Ivan Peleshchak, Sofia Chyrun, Anatolii Vysotskyi

YEAR: 2020

The work is devoted to the development of the information system for creating a list of recommendations for fashionable style of clothing meeting the users` needs using NLP and chat bots. It provides studying and practical use of chat bots as virtual assistants involving natural language processing. The purpose of this work is to develop software so that chat bot will be function on Telegram messenger base.

Method of natural language processing; How to communicate with the chat bot; How to get information to display the results to the user. The user enters a message; The system verifies whether the message satisfies the conditions for internal processing; If the internal processing failed, the program sends the request to the DialogFlow API; The system receives the DialogFlow API response in the JSON format for further output of the result. Since the implementation of the bot is carried out in the telegram messenger, respectively, the communication system will be conducted using the Telegram AP. The system has a list of stores and clothing suppliers and other fashionable products.

In this work the basic functions for the information system of forming the list of recommendations of the fashion style clothes according to the needs of the user using the NLP and chat bots are developed. The debuted software provides users with another way to search and select branded things in their own messenger, which in some cases can help increase sales to businesses as additional verticals.

PAPER – VIII

TITLE : SUPERAGENT: A CUSTOMER SERVICE CHATBOT FOR E-COMMERCE WEBSITES

AUTHOR : Lei Cui, Shaohan Huang, Furu Wei, Chuanqi Tan, Chaoqun Duan, And Ming Zhou

YEAR : 2017

Conventional customer service chatbots are usually based on human dialogue, yet significant issues in terms of data scale and privacy. Distinct from existing counterparts, SuperAgent takes advantage of data from in-page product descriptions as well as user-generated content from ecommerce websites, which is more practical and cost-effective when answering repetitive questions, freeing up human support staff to answer much higher value questions.

When the product page is first visited, SuperAgent crawls the html information and scrape PI+QA+CR data from the webpage. The fact QA engine is designed for answering questions regarding the facts of the product. The FAQ search engine is defined as follows: given a set of QA pairs P = {qi , ai} n i=1 and a customer's question q, we find the most similar qj in P and return the corresponding aj as the reply. Customer reviews provide rich information for different aspects of the product from users' perspective. general chit-chat engines tend to be topic-deviated so that the replies may be irrelevant.

We have developed SuperAgent, a customer service chatbot for e-commerce websites. Compared to conventional customer service chatbots, SuperAgent takes advantage of large-scale, publicly available, and crowd-sourced customer data. In addition, SuperAgent leverages state-of-the-art NLP and machine learning techniques, including fact QA, FAQ search, opinion-oriented text QA, as well as chit-chat conversation modeling.