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Survey on Interactive Chatbot

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Abstract: ***In recent days chatbots are designed based on how human beings communicate with the systems. A chat interface helps the user communicate with the chatbot as if it is a real person. Our system is specially designed for the educational institute to help and guide the students during the college admission. This design provides an interactive session between the user and the system. It can give answers to every question asked by the user. Our approach is to make the system scalable, user-friendly and highly interactive. This application provides additional features such as Maps and voice calls. The keywords in the query are matched with the information that is stored in the database and the reply is sent to the user.NLP and Keyword matching is used to improve the overall working of the system.***
Keywords: NLP, Keyword Matching, Artificial intelligence.

I. INTRODUCTION

A chatbot is an intelligent machine that knows to solve any kind of problem with an appropriate solution. It is true for knowledge-driven AI systems. The knowledge is obtained by the knowledge acquisition process which can be manual or automatic. It is complex to retrieve and maintain the obtained knowledge. Chatbots can be used anytime and anywhere. It can interact with thousands of people at the same time. It has a flexible attribute as well as customer satisfaction. A chatbot is developed using natural language processing. However, the large user base and open nature of Internet chat make it an easy target for harmful exploitation. The development of robots has made a drastic change to the human life. One of the most emerging trends in the development of robotics is the Chabot. There are numerous websites available on the World Wide Web which helps to create our chatbot that can respond intelligently to the user queries.

These services are used by many organizations. The technology improvements in chatbots undoubtedly produced a hype on its own yet bots are by far not limited to instant messages only. Bots permeate all kinds of online conversations on twitter Facebook and Instagram. They are everywhere where the humans conversing with each other through the internet legitimately or in-legitimately. Even though online bots are multiplying their presence in public and private communications, most organizers and users still do not have the knowledge skills or understanding to craft a successful strategy to keep with the possible unintended consequences of this presence. Chatting systems are expected to respond to any user utterances naturally. To meet the requirements, it's necessary to process various user inputs. Also, to form users desire they're communicating with humans, the personalization method is often adopted to the chatting system.

In today's world, the need for independent living is recognized in the case of visually impaired people who are facing the main problem of social restrictiveness with the recent improvement in inclusive technology it is possible to extend support given to people with visual impairment. The idea is implemented through android mobile app that focuses on a voice assistant, image recognition, etc.

The app is capable to assist using voice command to recognize objects in the surrounding, do text analysis to recognize the text in the hardcopy document. Thus, nowadays chatbots are developed to help visually impaired systems also.

Learner spends an inordinate amount of time browsing and viewing the content before deciding if the content is useful or not. This is especially true in software engineering where technology changes fast and need to learn continuously is very critical. So the goal is to achieve intuitive learner experience that can fetch the best of the content matched intelligently to the learner's contextual goals. Much of the content is open and freely available and some of it is proprietary. So we choose to build a chatbot leveraging using natural language processing techniques.

Chatbots are being made to ease the pain that the industries face today. Chatbots may sound sort of a futuristic notion, but consistent with Global Web Index statistics, it's said that 75% of internet users are adopting one or more messenger platforms. Although research shows us that every user makes use of a mean of 24 apps a month, wherein 80% of the time would be in only 5 apps. Among Facebook Messenger, Snapchat, Whatsapp, WeChat. This means you'll hardly shoot ahead with an app, but you continue to have high chances to integrate your chatbot with one among these platforms.

II. LITERATURE SURVEY

The contributions of various scholars are studied for survey and analyzing the merits and demerits in order to enhance the consequences for making the system work better.

In Chatbot and bully-free Chat, the authors Mrs. V. Selvi, Ms. Saranya, Ms .Chidida, Ms. Abarna have discussed a recent technology called chatbot which has been in demand for every business purpose and has hit the market. Chatbots are an interaction between person and system which gives us an efficient service and it also gives way to develop customer engagement and efficiency by reduction of cost. Chatbots can be accessible anytime and anywhere. This can be used by thousands of people at a time. It has a flexible attribute as well as customer satisfaction. A chatbot is constructed using natural language processing with the help of a machine learning algorithm for training the bot to perform in the right way and so training and testing is done using machine learning. This paper gives us an overview of chatbots and challenges we faced behind the chatbot with extra features of images. The advantage behind this chatbot is that it is user-friendly and can get related information according to the user queries as well as avoidance of bully words. Another advantage is Cyberbully detection when two-person chat with each other the words are detected and it's used to display whether its bully word or not.

In Building an Expert Recommender Chatbot the authors Jhonny Cerezo, Juraj Kubelka, Romain Robbes, Alexandre Bergel have presented their experience in implementing a chatbot for expert recommendation tasks. The chatbot was developed for the Pharo software ecosystem and was integrated with the Discord chat service, which was employed by the Pharo Community. Reports on preliminary evaluation that the advice system was welcomed, though the conversational behavior wasn't right. Users expected a completely conversational chatbot, capable of following the conversation flow that the user handles. the answer relies on simple tongue Processing techniques for the tasks of sentence-classification and key-concept identification, using the term frequency (TF) and inverse document frequency (IDF) algorithms respectively. they need also implemented an expertise identification algorithm supported ASCII text file mining techniques.

In Evaluation Framework for User Experience in 5G Systems: On Systematic Rateless-Coded Transmissions, the authors Ke Xiong1,2, Yu Zhang3, Pingyi Fan4, Hong-Chuan Yang5, Beijing Jiaotong have discussed the system performance in this paper. The application-layer defines information loss ratio (AILR) which can be used as a structure on the experience of the users from the viewpoint of 5G transmission systems. By using the integer partition theory, it analytically derives some theoretical results then obtains a particular expression of the AILR for SRCed transmissions. The main aim of coding in 5G systems is not only to provide secure communications on the physical layer but also increase the user experience on the application layer.

In The Potential of Chatbots: Analysis of Chatbot Conversations the authors Mubashra Akhta, Julia Neidhardt , Hannes Werthner have discussed the idea of utilizing computers for question answering tasks has been around from the early beginning of these systems. First algorithms to accomplish this was already implemented in the early 1960s. In recent years, chatbots have been gaining enormous popularity in various fields. In the context of business applications, they are considered as useful tools for improving customer relationships. In this paper, chat conversations between customers and the chatbot of a telecommunication company are analyzed to find out if these interactions can be used to determine a) users' topics of interests and b) user satisfaction. To reach this goal, chat conversations are interpreted as sequences of events and user inputs are analyzed with the help of text mining techniques. The study shows that based on users' written conversational contributions, valuable insights on users' interests and satisfaction can be gained. The majority of users leave the chat conversation after a short period if the chatbot was not able to give the desired answer right away. Moreover, a huge number of conversations deal with similar topics. Our results imply that companies offering chatbots must thoroughly analyze the collected data to gain more insights into their customers' needs. Based on our findings, they can improve customers' satisfaction by offering personalized service and implementing real-time feedback.

In Expression Tracking with OpenCV Deep Learning for a Development of Emotionally Aware Chatbots the authors Karmelo Antonio Lazaro R. Carranza, Joshua Manalili, Nilo T. Bugtai, and Renann G. Baldovino have discussed about the chatbot which explores the development of systems and devices that can understand, translate, process, and reproduce human emotions. It is an interdisciplinary field that includes computer science, psychology, and cognitive science. Inspiration for the research is the ability to simulate empathy when communicating with computers or in future robots. This paper explored the potential of facial expression tracking with deep learning to make chatbots more emotionally aware through developing a post-therapy session survey chatbot which response depending on two inputs, interactant's response and facial expression. The developed chatbot summarizes the emotional state of the user during the survey through percentages of the tracked facial expressions throughout the conversation with the chatbot. Facial expression tracking for happy, neutral, and hurt had 66.7%, 16.7%, and 56.7% tracking accuracy, respectively. Moreover, the developed program was tested to track expressions simultaneously per second. It can track 17 expressions with stationary subjects and 14 expressions with non-stationary subjects in 30 seconds.

In A Graph Based Chatbot for Cancer Patients the authors Belfin R V ,Shobana A J ,Megha Manilal ,Ashly Ann Mathew ,Blessy Babu have proposed a cancer chatbot designed only for people dealing with cancer. This paper explains the healthcare chatbots and how they get developed. It determined that the modern chatbots perform at a very high standard to provide a reliable response to users compared to the traditional chatbots.

The cancer chatbot would have a more significant influence on the life of cancer patients and would help them to clarify their doubts regarding cancer. Unlike existing chatbots that focused on various domains of healthcare apart from cancer, this chatbot focused only on cancer. Through an interactive session with this cancer bot, the patients can receive relevant information regarding cancer. This is the best solution for people who are busy with their job schedules.

In TutorBot: Contextual learning guide for Software Engineers, the authors Venkatesh Subramanian, Nisha Ramachandra, Neville Dubash have documented poster submission on using conversational chatbot to guide a software engineer in their learning journey and keeping pace with the technology development. The paper also discusses about the future opportunities to extend and enhance the functionality. Their solution architecture integrates a Software Bot with an intelligent machine language recommender engine and contextual learner data to interact with learners and fetch the most relevant content matching such as learner goals, skills, role, implicit and explicit context.

In Intelligent Chatting Service Using AIML, the authors Saqib G. Faizan K, Ghatte N has discussed the development of chatbots hosting service. One user can host multiple chatbots using any of the available AIML templates on the website which may reassemble a personality or act as consumer care for any business and organization. Moreover, this hosting website also provides APIs for Weather, News, Dictionary, web encyclopedia, Mathematical Calculations and a global file to keep all bots updated that are hosted on the website. Users can also embed chat on their website or integrate it with social networking sites such as Facebook. Chatting bot service provider acts as a customer care for many organization and industries. It can also act as a personal assistant to all the people in the world.

Bots developed on our site can also help the user to remember many details. The main aim of our system is to help companies attract customers from all parts of the world.

In Autonomic Author Identification in Internet Relay Chat (IRC), the authors Sicong Shao, Cihan Tunc, Amany Al-Shawi, Salim Hariri have presented an autonomic author identification technique based on personality profile and analysis of IRC messages. The system monitors the IRC channels using our autonomic bots and then create a personality profile for each targeted user. It shows that the personality analysis for author detection and identification is an efficient approach and has high detection rates. The goal of this paper is to develop methods for author identification in cyberspace and the ability to group intercepted anonymous messages that belong to the same users as well as those generated by known terrorists or cyber-criminals. To efficiently achieve these capabilities they have presented the design and implementation of Automatic Author Identification and Characterization (AAIC) framework that provides an innovative and effective solution to identify authorship using the personality profile analysis based on the fact that the personality characteristics of a person are relatively stable.

In Ticketing Chatbot Service using Serverless NLP Technology, the authors Eko Handoyo, M.Arfan, Yosua Alvin Adi Soetrisno, Maman Somantri, Agnus Sofwan, Enda Wista Sinuraya has processed a single request such as ticket booking, ordering something and getting services.

One request can contain many queries for a few information provided on the web. Business performance values time efficiency so it must be considered an alternate thanks to taking requests. Chatbot gives 24 hours service which can become an advantage besides using a human personal assistant. Chatbot acts like a routing agent which will classify user context in conversation. It helped with natural language processing (NLP) to analyze the request and extract some keyword information. One important process in NLP is morphological analysis and a part of speech (POS) tagging.

POS help to parse the meaning of chat text supported by a group of rules. The rule base is specific to some language and designed to capture all the keywords relying on chat text. Keywords in booking conversation term is like departure and destination city and also the date of flight.

In Chatbot for University Related FAQs ,the authors Bhavika R. Ranoliya,Nidhi Raghuwanshi,Sanjay Singh have discussed on chatbots that are programed which mimic human conversation using AI (AI). It is designed to be the last word virtual assistant, entertainment purpose, helping one to finish tasks starting from answering questions, getting driving directions, turning up the thermostat in smart home, playing one's favorite tunes, etc. Chatbot has become more popular in business groups immediately as it will reduce customer service costs and handles multiple users at a time. But yet to accomplish many tasks there's got to make chatbots as efficient as possible.

To address this problem, during this paper they have offered the planning of a chatbot, which provides an efficient and accurate account of any query supported the dataset of FAQs using AI terminology (AIML) and Latent Semantic Analysis (LSA). Template-based and general questions like welcome/ greetings and general questions are going to be responded using AIML and other service-based questions use LSA to supply responses at any time that will serve user satisfaction.

In Home Automation using IoT and a Chatbot using Natural Language Processing the authors Cyril Joe Baby1 , Faizan Ayyub Khan2 , Swathi J. N have proposed in this paper a web application using which the fans, lights and other electrical appliances can be controlled over the Internet.

The important feature of the online application is that firstly, a chatbot algorithm such as the user can text information to regulate the functioning of the electrical appliances reception. The messages sent using the chatbot is processed using tongue processing techniques. Secondly, any device connected to the local area network of the house can control the devices and other appliances within the house. Thirdly, the online application wont to enable home automation also features a security feature that only enables certain users to access the appliance. And finally, it also features a functionality of sending an email alert when intruder is detected using motion sensors.

In A Neural-network based ChatBot, the authors Milla T Mutiwokuziva, Melody W Chanda, Prudence Kadebu, Add light Mukwazvure, Tatenda T Gotra explored the avenues of teaching computers to process natural language text by developing a chatbot. We take an experimental approach from a beginner level of understanding, in trying to understand the processes, techniques, the facility, and possibilities of tongue processing using recurrent neural networks. To achieve this, they kick-started their experiment by implementing sequences to sequence long short-term memory cell neural networks in conjunction with Google word2vec.

Furthermore, they demonstrate reasoning and generative capabilities of RNN based chatbot. They have developed their sequence to sequence model to experiment with the technology of hope in understanding the underlying functionality, concepts, and capabilities of deep neural networks.

In Curious Cat Conversational Crowd based and Context-Aware Knowledge Acquisition Chat Bot, the authors Luka Bradeško, Janez Starc, Dunja Mladenic, and Marko Grobelnik have discussed a new approach by exploiting an existing knowledge base to drive the acquisition process and address the right people to check their answers for consistency. The main contribution of the paper is a novel knowledge-based approach that uses context and prior knowledge to automatically construct natural language crowd sourcing tasks for the right audience at the right time.

The newly acquired knowledge is then immediately used to construct better and detailed questions, thus drive the knowledge acquisition process further. This makes our approach a self-maintained and ever-growing natural language conversational agent that can also be used for non-knowledge acquisition-related tasks. The primary goal of our system is knowledge acquisition, with behavior as a conversation agent and assistant being secondary goals that serve as the means to drive knowledge acquisition. The aim is to perform knowledge acquisition effortlessly while having a conversation about concepts which have some connection to the user, allowing the user to follow the links in the conversation to connected topics and it also allows us to lead the conversation off-topic for a while and possibly gather additional, unexpected knowledge.

In Ergonomics evaluation to chatbot equipped with knowledge rich mind the authors Wei Liu , Jie Zhang ,Sheng Feng chatbots can get familiar with the planet by equipping with knowledge-rich minds that hook up with the Internet. In this paper, we'll first explore the way to integrate more knowledge into chatbot and the way to form chatbot remember what is happening within the world. a series of evaluations were done on the prototype system.

In this paper through the evaluations, we mainly want to validate the proposed method in the prototype system and how the abundant level of knowledge accumulation of a chatbot affects the interactions between the chatbot and therefore the users from the user satisfaction aspect. The experiment proves that the proposed method not only broadens the knowledge boundary of chatbot but also makes the talks between users and chatbot more coherent. In this paper, it shows that the level of user satisfaction is equal to the amount of factual knowledge.

In Humans and bots in internet chat the authors Steven Gianvecchio, Mengjun Xie, Zhenyu Wu, and Haining Wang has proposed a classification system that accurately distinguishes the chat bots from human users. The proposed classification system consists of two components: 1) an entropy-based classifier; and 2) a Bayesian-based classifier. The two classifiers compliment each other in chat bot detection. The entropy-based classifier is more accurate to detect unknown chat bots, whereas the Bayesian-based classifier is faster to detect known chat bots. Our experimental evaluation says that the proposed classification system is highly effective in differentiating bots from humans.

Table1: Comparison on various methods used in ChatBot

S.NO	PAPER	TECHNIQUE	CONCLUSION	ISSUES
1	Chatbot and bullyfree Chat	Fuzzy logic , natural processing algorithm like pattern parsing ,sentiment analysis. machine learning and its algorithm are used in chatbot for parsing the sentence	Chatbot is trained in such a way ,the concept of cyberbullying in two way chat is constructed using ML algorithms.	AdaBoost M1 algorithm is used, which uses the base classifier Decision Stump. But the simulation result shows that the proposed algorithm outperforms the existing sensing technique.
2	Building an Expert Recommender Chatbot	Discord API, TF and IDF algorithms to perform sentence classification key-concept collection and an expertise recommendation system based on implementation and usage expertise.	Participants are open to the potential of an expert recommendation system based on a chatbot, significant work is necessary to increase its acceptance. In particular, participants expected the chatbot to be able to conduct a conversation with them, rather than simply answer queries.	Although the recommendation system was well accepted, the lack of conversational behavior of the chatbot was not. As any communication flow must be carried out to a satisfactory conclusion, misleading feedback did not allow the information to flow successfully
3	Evaluation Framework for User Experience in 5G Systems: On Systematic Rateless-Coded Transmissions	Rateless codes, systematic rateless-coded transmissions, fountain codes	With the presented AILR expression, the proper system configuration can be easily determined without a heavy burden of Monte Carlo simulations and some key inherent systematic parameter setting up can be easily carried out to achieve a better performance in the viewpoint of users' experiences.	The information provided can be a document file, an image, a segment of video or a set of collected data by sensors but at times information object is often not small which makes the processing difficult.
4	The Potential Of Chatbots: Analysis Of Chatbot Conversations	Event Sequence Analysis, Network Analysis, Telecommunication	The Proposed Approach In This Study Is Not Domain-Depended. Therefore They Also Considered Other Domains To Implement Our Approach As Future Work	Only Few Interactions Are Explicitly Rated, To Assess User Satisfaction
5	Expression Tracking with OpenCV Deep Learning for a Development of Emotionally Aware Chatbots	Deep learning, emotionally aware technology, facial expression detection, scripted chatbot.	Given the research output of this paper, the future of this application is still far and therefore the researchers view issues they faced as opportunities to improve the project	The emotion tracking accuracy is not efficient and need to be improved
6	A Graph Based Chatbot for Cancer Patients	Natural Language Processing, Web Scraping	This chatbot contains a lot of cancer-related data collected from various cancer forums which would make our chatbot more dynamic and specific	At times it provides inaccurate results
7	TutorBot : Contextual learning guide for Software Engineers	Chatbot leveraging ML (Machine Learning) and NLP(Natural Language Processing) techniques. Google Dialog flow is used to create a chatbot interface.	Team using TutorBot reported significant improvement in getting relevant content faster compared to the team using traditional LMS.	Misunderstandings and re-prompts occurred frequently.need to improve the accuracy of ASR for learners with speech impairments.
8	Intelligent Chatting Service Using AIML	Integrating speech recognition and text to speech converter.	Bots developed on the site helps to remember many things. It may also help in attracting customers nationwide for many companies. It is used to entertain people by sending them jokes, facts, quotes	Developing a system that services millions of customer at single moment of time is difficult
	Autonomic Author Identification in Internet	IBM Watson Personality Insights, classification	This paper effectively idemtifies f the authors.using personality based	High desirability is needed to identify the anonymous

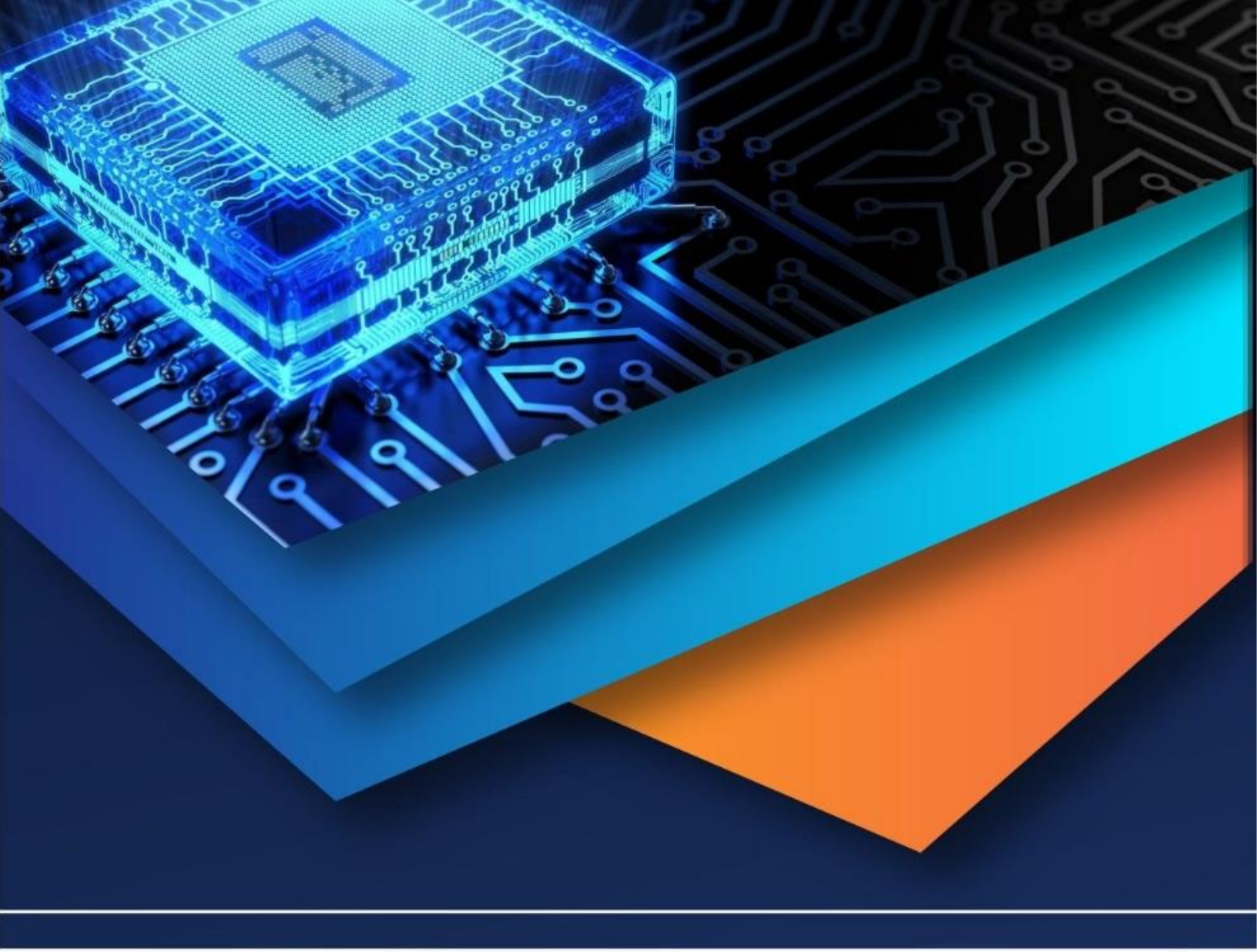
9	Relay Chat (IRC)	techniques to identify individual authors.	solution	individuals spreading malicious software tools or cyber criminals which is a cyber security challenge.
10	Ticketing Chatbot Service using Serverless NLP Technology	Node JS Webhook, Wit.AI NLP Services ,Tiket.com API.	Chatbots can help in customer service, based on the conducted scenario and show an Fmeasure score of 89.65%	Ticketing chatbot shows that it can respond well and give direction but need a more sophisticated algorithm to solve all occurrence in the user request.
11	Chatbot for University Related FAQs	Artificial Intelligence Markup Language (AIML) and Latent Semantic Analysis (LSA)	As a future work we can make a chatbot which is blend of AIML and LSA. This will enable a client to interact with chatbot in a more natural fashion	At times the chatbot does not discover an answer utilizing the main classification.
12	Home Automation using IoT and a Chatbot using Natural Language Processing	NLP, Azure, SMTP server. I. I	The system is now more convenient to control the appliances in homes.	Selecting a smart home protocol is itself considered a challenging task as a protocol that supports a large number of devices is need.
13	A Neural-network based Chat Bot	ADAM- minimizes the cosine distance between the predicted token and the target token. APN news pre-trained language for converting words into vectors.	This simple but powerful bot is a proof of even bigger possibilities that would like to continue working on the implementation to fix the code and improve the performance of the model. There is still much to be understood about LSTM's both in theory and in practice.	The little available resources are complex and skip the basics to building a full understanding of concepts .
14	Curious Cat Conversational Crowd based and Context Aware Knowledge Acquisition Chat Bot	Existing knowledge base,user current , past context and targeted crowdsourcing methodology in a natural language	Knowledge has high quality and is easily and inexpensively gathered from non expert user.	Task preparation, financial cost, finding the right crowd, consistency, and quality of the acquired knowledge exist
15	Ergonomics evaluation to chatbot equipped with knowledge rich mind	FAQ component NLP component	Two components can solve up to 58.08% overall the proposed system architecture makes positive contributions to solve knowledge sense user inputs yielding a total 65.18%	Developing a successful question answering system may be the ability to translate question from natural language into a formal representation or equality
16	Humans and bots in internet chat	Entropy-based and Bayesian-based classifiers	From the chat logs a total of 16 different types of chatbots is identified and grouped them into six categories: periodic bots, random bots, responder bots, replay bots, replay-responder bots, and advanced responder bots	Threat to online users.

III. CONCLUSION AND FUTURE WORK

In recent times chatbot has been in demand for every business purpose and has hit the market for various reasons. It provides interaction between person and system which gives us an efficient service and it also gives way to develop customer engagement and efficiency by reduction of cost. They are also used to guide a software engineer in their learning journey and keeping pace with the technology development. Chatbots are also used in personality analysis for author detection. They provide 24 hours service which can become an advantage besides using a human personal assistant. In this application, the queries which are not answered by the chatbot are answered by a human through voice calls. In future this chatbot can be used to enhance student engagement by providing smart and secure feedbacks based on their performance.It also provides efficient teaching assistance,instant help to student and keeps the students and staffs updated about the institution.

REFERENCES

[1] Mrs.V.Selvi, Ms.Saranya , Ms.Chidida , Ms.Abarna," Chatbot and bullyfree Chat" Proceeding of international conference on system computation automation and networking 2019.
[2] Jhonny Cerezo, Juraj Kubelka, Romain Robbes, Alexandre Bergel, Building an Expert Recommender Chatbot,2019 IEEE/ACM 1st International Workshop on Bots In Software Engineering
[3] Ke Xiong1,2, , Yu Zhang3 , Pingyi Fan4,Hong-Chuan Yang5 ,Beijing Jiaotong ; Evaluation Framework for User Experience in 5G Systems: On Systematic Rateless-Coded Transmissions ;2019 IEEE conference on e- managements and services.
[4] Mubashra Akhta, Julia Neidhardt , Hannes Werthner ;The Potential of Chatbots: Analysis of Chatbot Conversations ;2019 IEEE 21st Conference on Business Informatics (CBI) ,
[5] Karmelo Antonio Lazaro R. Carranza, Joshua Manalili, Nilo T. Bugtai, and Renann G. Baldovino ; Expression Tracking with OpenCV Deep Learning for a Development of Emotionally Aware Chatbots ,2019 7th International Conference on Robot Intelligence Technology and Applications (RiTA)
[6] Belfin R V ,Shobana A J ,Megha Manilal ,Ashly Ann Mathew ,Blessy Babu ; A Graph Based Chatbot for Cancer Patients ; 2019 5th International Conference on Advanced Computing & Communication Systems (ICACCS)
[7] Venkatesh Subramanian, Nisha Ramachandra, Neville Dubash, TutorBot : Contextual learning guide for Software Engineers, 2019 IEEE/ACM 1st International Workshop on Bots in Software Engineering
[8] Saqib G., Faizan K, Ghatte N ,Intelligent Chatting Service Using AIML, Proceeding of 2018 IEEE International Conference on Current Trends toward Converging Technologies, Coimbatore, India
[9] Sicong Shao, Cihan Tunc, Amany Al-Shawi, Salim Hariri," Autonomic Author Identification in Internet Relay Chat (IRC)" 15th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2018) 2018 .
[10] Eko Handoyo, M.Arfan, Yosua Alvin Adi Soetrisno, Maman Somantri, Aghus Sofwan, Enda Wista Sinuraya, Ticketing Chatbot Service using Serverless NLP Technology, 2018 5th Int. Conf. on Information Tech., Computer, and Electrical Engineering
[11] Bhavika R. Ranoliya,Nidhi Raghuwanshi,Sanjay Singh ;Chatbot for University Related FAQs ;2017 international conference on advances in computing communications and informatics (ICACCI).
[12] Cyril Joe Baby1 , Faizan Ayyub Khan2 , Swathi J. N.2 ;Home Automation using IoT and a Chatbot using Natural Language Processing ;2017 innovations in power in advanced computing technologies (i-PACT)
[13] Milla T Mutiwokuziva, Melody W Chanda, Prudence Kadebu, Addlight Mukwazvure, Tatenda T Gotora, A Neural-network based Chat Bot, Proceedings of the 2nd International Conference on Communication and Electronics Systems (ICCES 2017)
[14] Luka Bradeško, Janez Starc, Dunja Mladenic, Marko Grobelnik," Curious Cat Conversational Crowd based and Context Aware Knowledge Acquisition Chat Bot, IEEE 8TH INTERNATIONAL CONFERENCE ON INTELLIGENT SYSTEMS,2016.
[15] Wei Liu, Jie Zhang, Sheng Feng ,Ergonomics evaluation to chatbot equipped with knowledge rich mind;2015 3rd international symposium
[16] Steven Gianvecchio, Mengjun Xie, Zhenyu Wu, and Haining Wang, Humans and Bots in Internet Chat: Measurement, Analysis, and Automated Classification, IEEE/ACM TRANSACTIONS ON NETWORKING, VOL. 19, NO. 5, OCTOBER 2011



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