Journal of Current Research in Engineering and Science
Bi-Annual Online Journal (ISSN : 2581 - 611X)
Volume 7-Issue 1, January 2024
Paper: 54

Enhancement of human computer interactive AI system for medical data analysis

R. Vanitha
Dept of CSE
IFET College of Engineering
Villupuram, India.
rvanitha.krishnan@gmail.com

K. Hemanth
Dept of CSE
IFET College of Engineering
Villupuram, India.
hemanthki2001@gmail.com

Abstract— A chatbot is a computer programme that can talk with humans through messaging networks utilizing artificial intelligence. The project's purpose is to introduce a chatbot functionality and an API for Education. Discussion boards, blogs, wikis, and so on. Education includes all of the essential characteristics of an online search portal. It features its own account administration system, as well as the option to create groups with discussion boards. Groups are groups of users who have access to the group feed. The user who forms a group is designated as the group's original owner. Posts are organized by thread, with the most current action at the top. The chatbot API for Education will enable developers to build new chatbots driven by rules or artificial intelligence that can engage with people in a group's feed page like a human. Weather chatbots and flight booking chatbots are two examples of chatbots that may be created using this API. In recent years, messaging apps have surpassed social networking sites in popularity. People nowadays use chat apps such as Facebook Messenger, Skype, Viber, Telegram, Slack, and others. Making other businesses available on messaging platforms encourages users to connect with them about their products. To communicate with a large number of users on such messaging platforms, firms can create a chatbot, which is a computer programme that can converse like a human.

I. INTRODUCTION

Artificial intelligence is used by machine learning chatbots. The user does not need to be more explicit when conversing with a bot because it understands natural language as well as commands. This type of bot improves or becomes smarter over time as it learns from previous interactions with people. Here's a short example to show how they function. A human and a chatbot have the following conversation: "I need a flight from San Jose to New York." "Of course!" says the bot. "When do you want to travel?" "From December 20, 2016 to January 28, 2017." "Excellent!" says the bot. "I'm looking for a flight."

I used an iterative method to attain the end aim, dividing my effort into four major deliverables. These deliverables not only helped me grasp the coding structure of Education, but they also improve its functionality. I'll go over the four deliverables in the rest of the report. To learn more about chatbot services, I created a Facebook Messenger Weather Bot in deliverable 1, which is covered in the next section. Deliverable 2's goal is to incorporate chatbots into education. Bot Configuration settings have been introduced, which are used to add bot users in Education. In the next release, I've included a feature that allows users to call bots in a group discussion. Bots will be activated by calling the corresponding callback URL, which is already configured and allows bots to converse with users. More information is provided in the deliverable 3 section. As a deliverable 4, I constructed a weather bot, which is a php web application that queries the Yahoo API for weather information. The conclusion and future work are included in the report's last section.

II.LITERATURE SURVEY

- Are Chatbots Really Useful? Bayan Abu Shawar and Eric Atwell - The paper is mostly an academic paper that highlights certain case studies and includes a brief history of chatbots dating back to the early experiments such as ELIZA (around 1966). The study is focused on the creation of a chatbot with ALICE utilising AIML patterns.

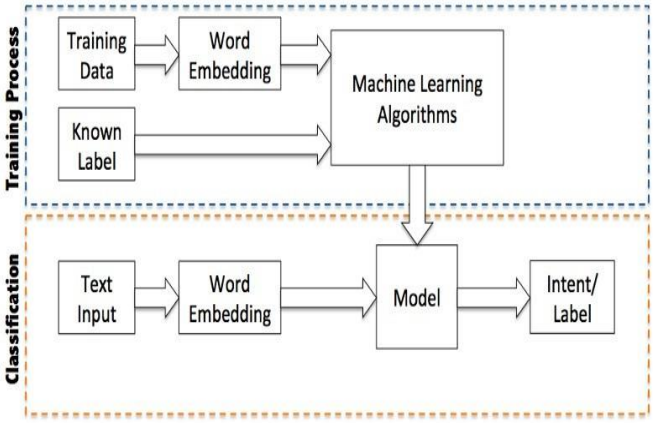
- A Web-based Platform for Human Chatbot Interaction Collection, Authors: Lue Lin, Luis Fdo. O'Hara, and

Journal of Current Research in Engineering and Science
Bi-Annual Online Journal (ISSN : 2581 - 611X)
Volume 7-Issue 1, January 2024
Paper: 54

Rafael Banchs - The paper describes a chatbot design that is being developed using a web-based platform. In HAI 2016, Lue Line, Luis Fernando D'Haro, and Rafael E. Banchs suggested Web Chat, a crowd-sourced endeavour that might gather and annotate human chatbot encounters.

- The ALICE Anatomy Richard S. Wallace is the author.
- Dr. Richard S. Wallace proposed the technical presentation of Artificial Linguistic Internet Computer Entity (A.L.I.C.E.) and Artificial Intelligence Markup Language (A.I.M.L.) in this paper, which are set against
- philosophical and historical ruminations on human consciousness.

III.SYSTEM ARCHITECTURE



IV.EXISTING SYSTEM

- Technology has a significant impact on the industry and daily tasks. It serves a multitude of uses and is used in various ways throughout the world.
- Artificial intelligence has recently piqued the public's interest. Artificial intelligence simulates human cognitive skills.
- To be more exact and human-like, AI Chatbots are now replacing human responses with this software. A chatbot is a computerized programme that acts as a colloquist between the human and the bot, a virtual assistant that has grown in popularity in recent years, owing to dramatic advances in areas such as artificial intelligence, machine learning, and other underlying technologies such as neural networks and natural language processing. Using interactive inquiries, these chatbots efficiently connect with any human being.

Conversational AI is the study of approaches for software agents that can converse naturally with humans or other agents.

Software such as voice assistants and chatbots are examples of this. The original iteration of this software concentrated on short task-oriented dialogues such as music playback (e.g., "Alexa, play music") or information retrieval (e.g., "Cortana, what is the weather like today in Athens?").

V.PROPOSED SYSTEM:

We will create a chatbot using deep learning techniques in this Python project with source code. The chatbot will be trained on the dataset which contains categories (intents), pattern and responses. We employ a specific recurrent neural network (LSTM) to determine which category the user's message belongs to, and then we select a response at random from a list of possible responses. 'Intents. Son' is the dataset we'll be using. This is a JSON file containing the patterns to be found and the responses to be returned to the user.

VI.ADVANTAGES

- The goal of our project is to create a chatbot that can interpret human inputs and emotions and recommend pharmaceuticals depending on health problems utilizing the reviews, ratings, and useful count provided by pharmaceuticals.com users.

Journal of Current Research in Engineering and Science
Bi-Annual Online Journal (ISSN : 2581 - 611X)
Volume 7-Issue 1, January 2024
Paper: 54

- The data was scraped from sites such as Medscape and Drugs.com, and we employed Deep Learning Model, Light GBM, and LSTM model for recommendation.

- The dataset contains patient reviews on specific drugs as well as related ailments, as well as a 10-star patient rating that reflects overall patient happiness. The information was collected via scraping pharmaceutical review websites known as "Drugs.com."

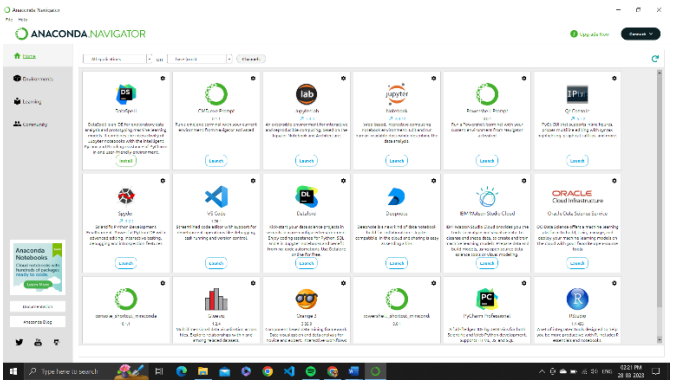
- Later, a chatbot is developed to recognize human emotions related to their health status and to propose drugs based on the recommendation system.

VII.PROCEDURE

Step 1 Install the dependencies for Windows

Download and install the Anaconda Package 64-bit version, and then select Python 3.6. This automatically installs Python as well as numerous important data scientist/ML libraries (NumPy, Scikit-Learn, Pandas, R, Matplotlib.), tools (Jupyter Notebook, RStudio.)

and hundreds of additional open-source packages for your future work. The Anaconda Jupyter notebook, for example, is used for all experiments. The OpenCV library is not included and must be installed separately because it is required for real-time computer vision activities.



Step 2 Install TensorFlow and Kera's

Google develops and maintains TensorFlow, the most popular AI software library. Kera's is another popular and high-level neural network API that is written in Python and can operate atop TensorFlow.

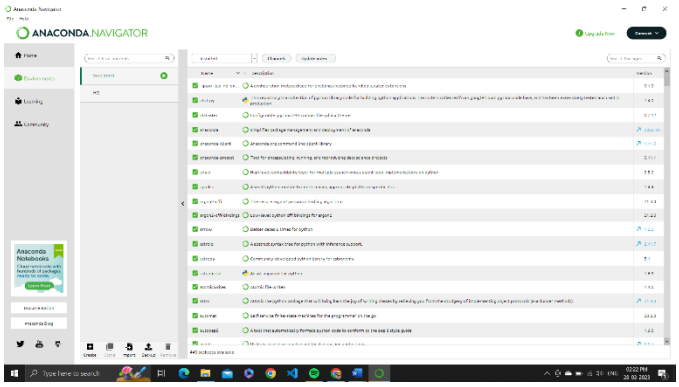
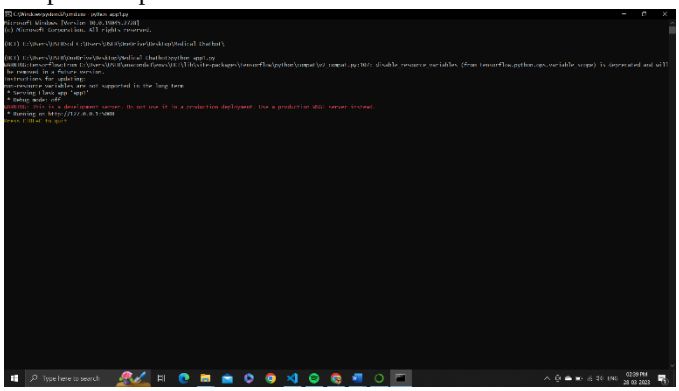


Figure. Installation of Anaconda Package

Step 3 Install CMC.exe Prompt and Jupyter Notebook for the further process.
After installing open cmd.exe in a project environment and execute the commands one by one.
1.conda install –c conda-forge TensorFlow
2.conda install –c conda-forge keras
3.conda install –c conda anaconda scikit-learn
4.conda install –c conda-forge OpenCV
5.conda install –c anaconda scikit-image
6.conda install –c anaconda flask.
7.Pip install panda



Journal of Current Research in Engineering and Science
Bi-Annual Online Journal (ISSN : 2581 - 611X)
Volume 7-Issue 1, January 2024
Paper: 54

VIII.RESULT

1.Open the cmd.exe Prompt and run the command

C:\Users\USER\OneDrive\Desktop\Medical Chatbot\

1. 2.Run the command: python app1.py

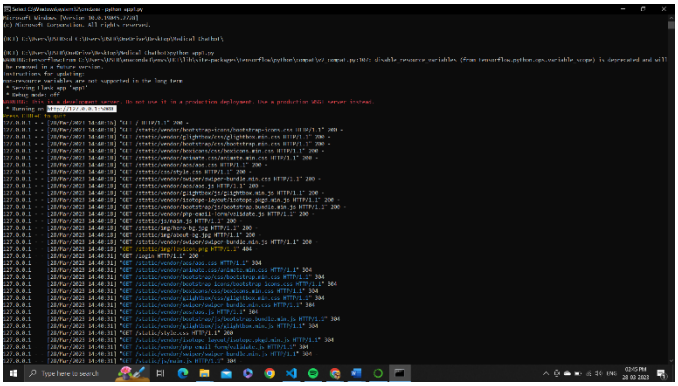


Figure.cmd.exe Prompt

3.Copy the URL and Paste it in a Browser and make it as Admin

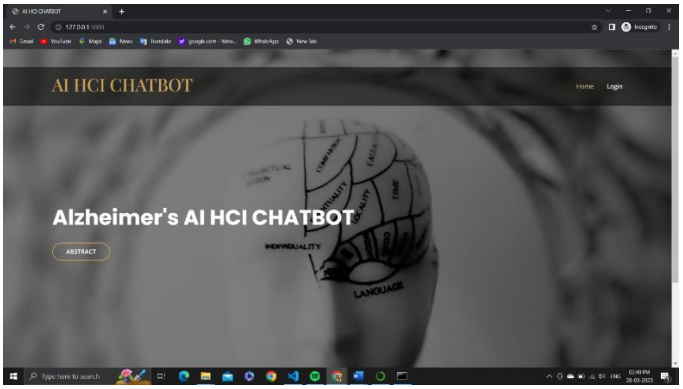
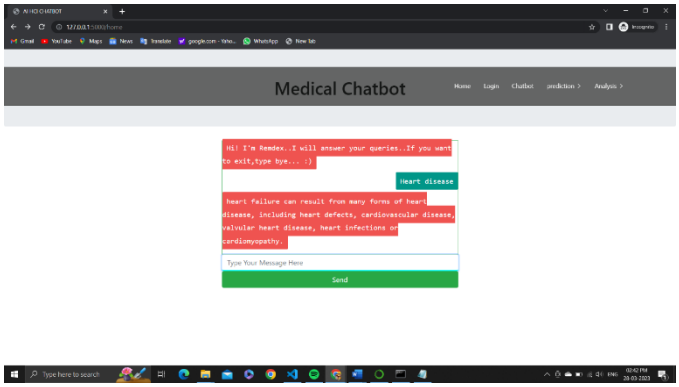
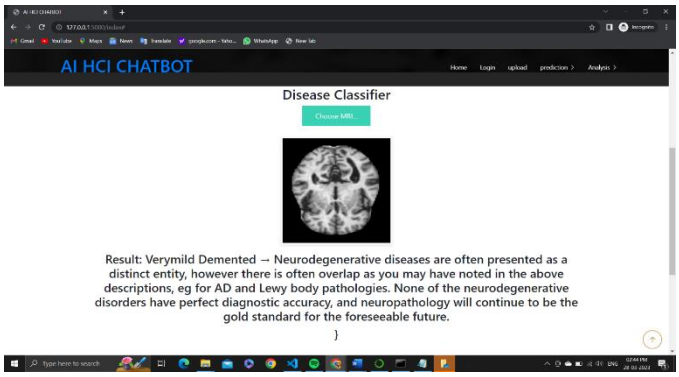


Figure. Admin page

4.Medical chatbot page



5. Diseases prediction classifier



IX.CONCLUSION AND FUTURE SCOPE

Chatbots are the next big thing! As stated in the deliverables above, this project adds the potential of chatbots to Education and enhances its usefulness. Chatbots in education can provide a human touch to certain parts and allow for a more enjoyable dialogue. And they are totally concerned on providing information and executing tasks for the humans with whom they engage. The aforementioned functionality is implemented and deployed into Education code in all deliverables. I was able to integrate basic chatbot capabilities to the Education by implementing the aforementioned deliverables. I.e., as described in deliverable 2, establishing and creating accounts for bot users with bot settings, and activating a bot anytime a user requests it via post I created a small weather chatbot that offers weather information whenever a user asks in a thread stated in deliverable 3 and as I discussed in deliverable 4, and Fig. 3 shows that I was also able to talk with the bot in Education. In CS298 I hope to improve the system that has

Journal of Current Research in Engineering and Science
Bi-Annual Online Journal (ISSN : 2581 - 611X)
Volume 7-Issue 1, January 2024
Paper: 54

been established thus far. The next step in developing chatbots is to assist people in facilitating their job and interacting with computers using natural language or a set of rules. Future Education chatbots will be able to recall previous conversations and learn from them in order to answer new ones, thanks to machine-learning technology. Conversing with numerous bot users and multiple users would be difficult.

X.REFERENCES

[1].J. Grudin, ‘‘Anticipating the future of HCI by understanding its past and present,’’ in Proc. Extended Abstr. CHI Conf. Hum. Factors Comput. Syst., May 2019.

[2] Z. Zeng, P. J. Chen, and A. A. Lew, ‘‘From high-touch to high-tech: COVID-19 drives robotics adoption,’’ Tour. Geogr, vol. 22, no. 3, pp. 724–734, 2020.

[3] K. Sohn and O. Kwon, ‘‘Technology acceptance theories and factors influencing artificial Intelligence-based intelligent products,’’ Telemat. Inform., vol. 47, no. Dec. 2019.

[4] Y. Yun, D. Ma, and M. Yang, ‘‘Human–computer interactionbased decision support system with applications in data mining,’’ Future Gener. Comput. Syst., vol. 114, pp. 285–289, Jan. 2021.

[5] E. Bryndin, ‘‘Development of artificial intelligence by ensembles of virtual agents with mobile interaction,’’ Autom., Control Intell. Syst., vol. 8, no. 1, p. 1, 2020.

[6] B. Shneiderman, ‘‘Bridging the gap between ethics and practice: Guidelines for reliable, safe, and trustworthy human-centered AI systems,’’ ACM Trans. Interact. Intell. Syst., vol. 10, no. 4, pp. 1–31, Dec. 2020.

[7] B. Arrieta, N. Díaz-Rodríguez, J. Del Ser, A. Bennetot, S. Tabik, A. Barbado, S. Garcia, S. Gil-Lopez, D. Molina, R. Benjamins, R. Chatila, and F. Herrera, ‘‘Explainable explainable artificial intelligence (XAI): Concepts, taxonomies, opportunities and challenges toward responsible AI,’’ Inf. Fusion, vol. 58, pp. 82–115, Jun. 2020.

[8] P. Forbrig, ‘‘Continuous software engineering with special emphasis on continuous business-process modeling and human-centered design,’’ in Proc. 8th Int. Conf. Subject-Oriented Bus. Process Manage., Apr. 2016.