CHATBOT IN PYTHON

BACHELOR OF TECHNOLOGY (Computer Science Engg)

To

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Abstract

Through chatbots one can communicate with text or voice interface and get reply through artificial intelligence. Typically, a chat bot will communicate with a real person. Chat bots are used in applications such as ecommerce customer service, call centres and Internet gaming. Chatbots are programs built to automatically engage with received messages. Chatbots can be programmed to respond the same way each time, to respond differently to messages containing certain keywords and even to use machine learning to adapt their responses to fit the situation. A developing number of hospitals, nursing homes, and even private centres, presently utilize online Chatbots for human services on their sites. These bots connect with potential patients visiting the site, helping them discover specialists, booking their appointments, and getting them access to the correct treatment. In any case, the utilization of artificial intelligence in an industry where individuals' lives could be in question, still starts misgivings in individuals. It brings up issues about whether the task mentioned above ought to be assigned to human staff. This healthcare chatbot system will help hospitals to provide healthcare support online 24 x 7, it answers deep as well as general questions. It also helps to generate leads and automatically delivers the information of leads to sales. By asking the questions in series it helps patients by guiding what exactly he/she is looking for.

2. Machine Learning (ML) is an area of computer science that "gives computers the ability to learn without being explicitly programmed". The parameter of the formulas is calculated from the data, rather than defined by the programmer. Two most common usage of ML is Classification and Regression. As shown in figure1[8], Classification means to categorize different types of data, while Regression means to find a way to describe the data. Basic ML program will have two stages, *fitting*and *predicting.*In the fitting stage, the program will be given a large set (at least thousands) of data. The program will try to adjust its parameter based on some statistical models, in order to make it "fit" the input data best. In the predicting stage, the program will givea prediction for a new input based on the parameters it just calculated out. For example, the famous Iris flower dataset [9] contains the measurement of several features of three different species of flowers, such as the length of sepals and petals. A well-defined ML program can learn the pattern behind this feature and give prediction accordingly.
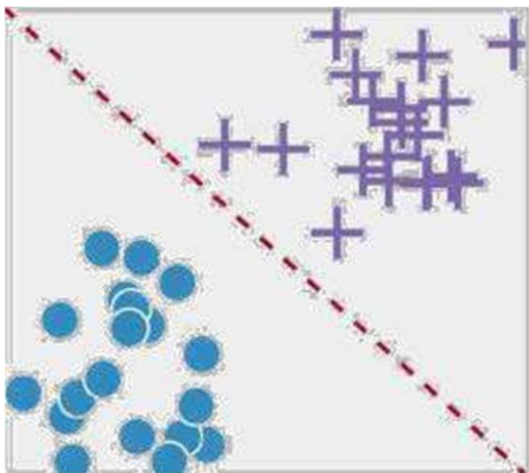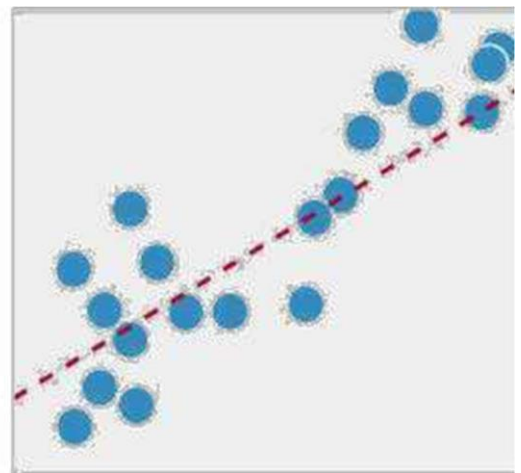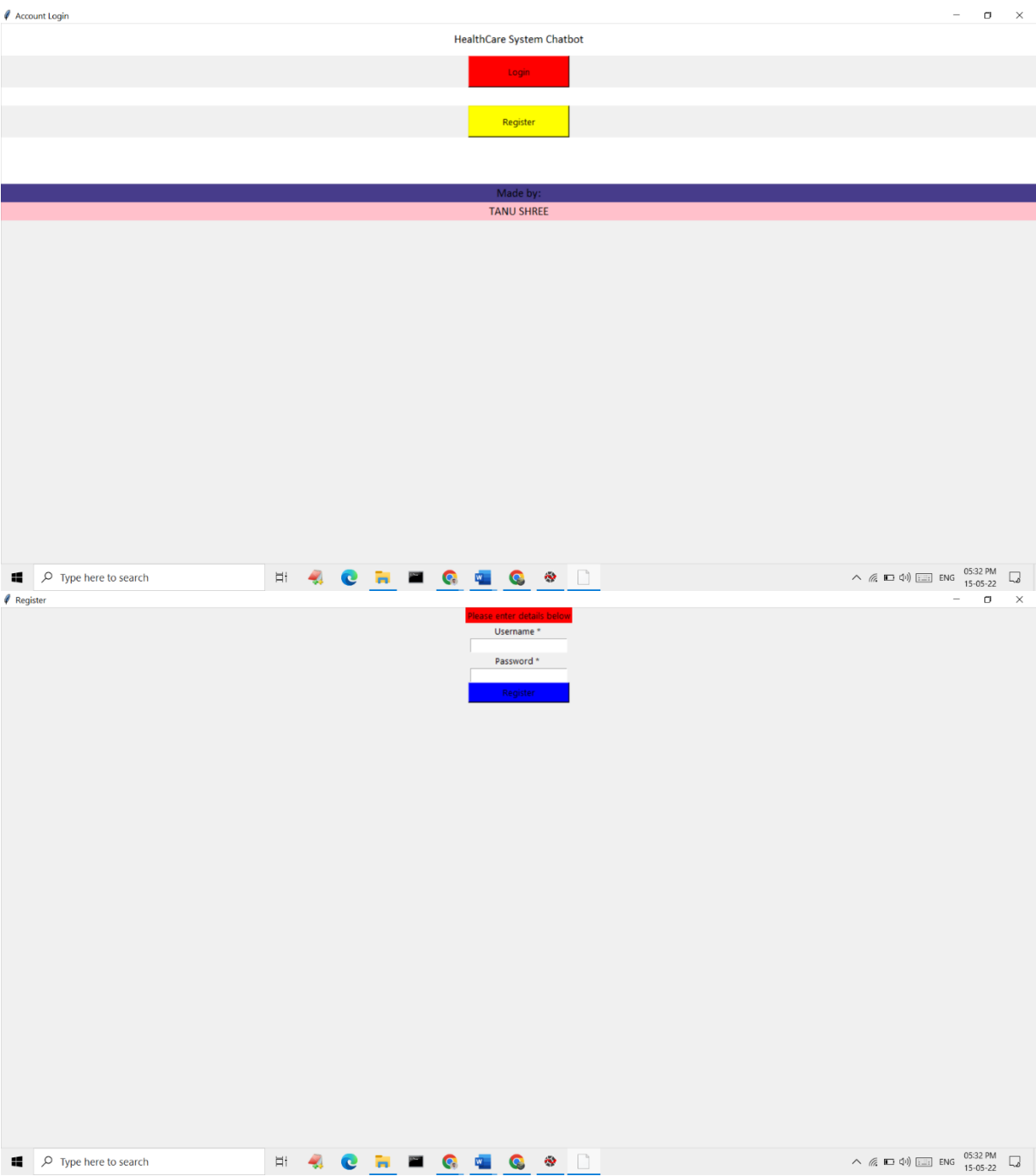

Figure2a: Classification   Figure2b: Regressing

Problem Statement

Changing of requirements As an industrial project to build a product, we must follow the requirement from the user. However, because the project's goal is to be used by the business team, but it is responsible by the technical team, the requirement changed a lot in the middle after a meeting with the business team. The business team want a simple bot that can give recommendation immediately. We had to archive what we had done before and build a new one.

3. System Design

HealthCare System Chatbot

Login

Register

Made by:

TANU SHREE

Please enter details below

Username *

Password *

Register

Type here to search

Window 1:

Question

Question	

Digonosis	

No	
Clear	

Yes
Start

Window 2:

Question

palpitations ?

Question	

Digonosis	Please Click on Yes or No for the Above symptoms in Question

No	
Clear	

Yes
Start

palpitations ?

Question

Digonosis

You may have :['Hypoglycemia']
symptoms present: ['palpitations']
symptoms given: ['vomiting', 'fatigue', 'anxiety', 'sweating', 'headache', 'nausea', 'blurred_and_di
storted_vision', 'excessive_hunger', 'drying_and_tingling_lips', 'slurred_speech', 'irritability', '
palpitations']
confidence level is: 0.08333333333333333
The model suggests:
Consult ['Dr. Jyoti Arora Monga']
Visit https://www.practo.com/delhi/doctor/dr-jyoti-arora-ayurveda?specialization=Ayurveda&practice_i
d=693424

No   **Yes**

Clear   **Start**

⊞   🔍 Type here to search   🖽   🔴   ⬤   📂   ⬛   🔴   🅦   ⬤   🔴   📄   ∧ 🕬 ⬛ 🔊 ⌨ ENG   05:33 PM 15-05-22

4. SRS

3.1 Functional Requirements:

Hardware Requirements

- Pentium Processor IV or Higher
- Min 10 GB HDD
- RAM 512 MB or Higher
- 2.4 GHz or faster Processor

Software Requirements

- Windows Vista onwards, Linux, Mac OS
- In the case of building the Project from the source
    - Python Compiler
    - Tensorflow Machine learning library
    - Keras
    - SciKit Learn
    - Pandas
    - Numpy
    - Flask

3.2 Non Functional Requirements:

Performance Requirements:

- The formats of the scanned copies should be in the standard format
- Should have a training error of as low as possible

Software Quality Attributes

- Robustness
- Reliability

- Better learning methods
- Acquiring good accuracy results

5. **Implementation / Methodology**

Description

The waterfall Model is a linear sequential flow. In which progress is seen as flowing steadily downwards (like a waterfall) through the phases of software implementation. This means that any phase in the development process begins only if the previous phase is complete. The waterfall approach does not define the process to go back to the previous phase to handle changes in requirement. The waterfall approach is the earliest approach that was used for software development.

6. **Software Testing**

The research in this thesis focuses on predicting the general sentiment polarity of the reactions to the news on Twitter/Reddit before a news article is published. To answer our research questions regarding the influence of category of product acceptance

**7. Code
Link:**

https://github.com/abz8989/health_care_chatbot-
/blob/main/healthcare_chatbotConsole.py

8. Conclusion

Chatbots are the new Apps! As we have discussed in the above deliverables, this project brings the power of chatbots to Yioop and enriches its usability. Chatbots in Yioop can give a human like touch to some aspects and make it an enjoying conversation. And they are focused entirely on providing information and completing tasks for the humans they interact with. The above mentioned functionality in all the deliverables is implemented and pushed in to Yioop code. By implementing the above mentioned deliverables I was able to add a basic chatbot functionality in to the Yioop. I.e., configuring and creating accounts for bot users with bot settings which is mentioned in deliverable 2, activating a bot whenever a user asks for it via post in a thread which is discussed in deliverable 3 and as I discussed in deliverable 4, I have implemented a simple weather chatbot that gives weather information whenever a user ask and Fig. 3 tells that I was also able to converse with the bot in Yioop. I intend to enhance the system developed so far in CS298. Next step towards building chatbots involve helping people to facilitate their work and interact with computers using natural language or using set of rules. Future Yioop chatbots, backed by machine-learning technology, will be able to remember past conversations and learn from them to answer new ones. The challenge would be conversing with multiple bot users and multiple user

9. References

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