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## ChatBot for Technical and Non-Technical Queries

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**ABSTRACT:** Till date is known to learn and find information only through single sided way.

A BOT with self-learning capability that comes with modern natural language processing, deep learning and transliteration cognitive techniques. The BOT should scores answer relevancy over time intelligently and can answer tech or non-tech people differently based on their technical ability.

**KEYWORDS:** ChatBot, Artificial Intelligence, java, python, Machine learning.

### I. INTRODUCTION

Programming language play an important role in every department for coding. In day-to-day life, every student has some quires in programming language. But most of the student, especially the first-timers, struggles to know various procedures and processes required to get their work done at the programming language and avail of its different definition and functions. Currently student have their own web-sites, mobile applications and facilities like internet tutorial, mobile app but sometimes, these sources can be a bit overwhelming for most of the users who are either not well versed with technology or in some cases where the information is too scattered to search for easily. There are different types of platforms provided by different department but students are facing problems accessing them (different GUIs, too much navigation). Although staffs are available, there are lot of times and redirection in some cases, leaving the student with no choice but to experience considerable delays getting a simple informational query resolved. Student has queries about various definitions, function, and syntax. This is time consuming and staffs gets frustrated. Manpower and money gets wasted for separate inquiry.

### II. BASIC OF CHATBOT

A chatbot is a conversational agent that interacts with users in a certain domain on certain topic with natural language Sentences .Normally a Chabot works by a user asking a question or initiating a new topic .Chatbot can be called as software agents that simulate an entity usually a human. These are the software with artificial intelligence which allows them to understand users input and provide meaningful response using predefined knowledge base.

### PROBLEM DEFINITION

Tedbot is an interactive chatbot which helps the users in clarifying their doubts about the technical and non technical queries. It is an Artificial Intelligence (AI) chatbot which pulls information from various sources. It is mainly constructed using TensorFlow with Python.. The first and the foremost step in creating chatbot is data set creation. Data set, in general, is a collection of information related to a particular field, which is used to train the bot. Larger the number of data in the data set, the more accurate the chatbot produces the result. The data set is made ready in the form of 2 text files – a question file and an answer file. The question file contains all possible queries and an answer file contains the corresponding replies to those queries. These data sets are provided as input for training, which utilizes the



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technique of Natural Processing Language (NLP) and Natural Machine Translation (NMT) reads the entire source sentence, understands its deep meaning and performs translation.

## III. LITERATURE SURVEY

### A Novel Approach for Medical Assistance Using Trained Chatbot

DivyaMadhu, Neeraj Jain C. J, ElmySebastain, ShinoyShaji and AnandhuAjayakumar developed an AI chatbot[2] that can predict the diseases based on the symptoms and give the list of available treatments. The System can also give the composition of the medicines and their prescribed uses. It helps them to take the correct treatment.

Its features include: Build a simple and interactive real time chat system, Age based Medicine dosage details, Dedicated system which is able to solve all the queries regarding a medicine and Effective Symptom based disease prediction. It can be easily integrated and upgradable. They concluded that Personalized Medical assistant heavily relies on AI algorithms as well as the training data. It does pose some challenges, as the accuracy of result and practice to the extent that some futurist think algorithms and machines could replace most of the jobs doctors do today.

### Programming challenges of Chatbot: Current and Future Prospective

AM Rahman, Abdullah Al Mamun, Alma Islam gave an overview of chatbot technologies and challenges of programming in current and future Era of chatbot[3]. It is inferred that the dynamic response using knowledge base provides better results than static response. The programming challenges include NLP and Machine Learning.

### Extending a conventional chatbot knowledge base to external knowledge source and introducing user based sessions for diabetes education

ShafquatHussain and Prof. AthulaGinige proposed a web-based chatbot (VDMS) that will help general diabetes patients by interacting with the chatbot[4] . 6 A new user needs to register first in order to start a session. After completing the registration process, a new user is created in the chatbot's database with his own login credentials.

A logged in user can start the session by typing questions about diabetes in natural language and the chatbot will provide answers to the user's queries using the same natural language. All the conversations are saved in chatbot's database against that logged in user.

The local knowledge base of VDMS on diabetes is hand coded using AIML pattern template tags. User query is passed as a string to MediaWiki API to retrieve the relevant page title from Wikipedia by sending HTTP request. The page title is passed as parameter to extract the definitions by again sending HTTP request. AIML has a weak pattern matching ability which can be improved by improving the algorithm of an existing chatbot technology.

### Observations of a new chatbot

Lisa N. Michaud shares information gathered from the design and implementation of an SMS chatbot-based virtual assistant to hotel guests in London. In early 2016, she designed and introduced a new kind of virtual assistant for the hospitality domain[5] .

The resulting "virtual host," Edward, uses SMS to communicate with hotel guests who have registered a mobile phone number with their reservation. Edward possesses the capability to provide answers to frequently asked questions and to directly summon requested items and services from appropriate staff. She concluded that creating the data set is the tedious process since it involves diverse styles of user input. Also, keyword based approaches are likely to fail when sentences are complex. She also claims that data gathering should be a continuous process to make the performance high. 7

### Chatbot using TensorFlow for small Businesses

Rupesh Singh, Manmath Paste, Harshkumar Patel, Nitin Mishra and NirmalaShinde proposed a Chatbot using TensorFlow for small Businesses. Machine learning based chatbots yields more practical results[6]. This method uses TensorFlow for developing the neural network model of the chatbot and uses the NLP techniques to maintain the context of the conversation. Existing chatbots like ELIZA and ALICE, with their drawbacks were discussed. The proposed system consists of three main parts



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- 1) User Interface
- 2) Neural network model and NLP unit
- 3) Feedback System

Main objective of this project was to provide a system to create chatbot which can be used by small businesses as a replacement of customer support. The accuracy of the chatbot is directly proportional to the size of intent file used for training the chatbot.

## IV. SYSTEM ANALYSIS

### EXISTING SYSTEM

In the modern era of technology, chatbots is the next big thing in the era of conversational services. chatbots is a virtual person who can effectively talk to any human being using interactive textual skills. existing chatbots like eliza was developed using keyword matching and string manipulation techniques. the chatbot doesn't understand what it is saying. it only produces results according to rules, static responses and string manipulation. however most of the time there are some standard replies that eliza would use if a keyword is not found. some examples would be "very interesting, please go on" or "can you think of a special example?"

```
ELIZA: How do you do. Please tell me your problem.
YOU: i need your help
ELIZA: Do you want my help ?
YOU: i have to complete my paper
ELIZA: Your paper ?
YOU: yes, research paper
ELIZA: I understand.
YOU: i am sad and very tired to complete it
ELIZA: Do you think coming here will help you not to be sad ?
YOU: people told me you are a doctor so
ELIZA: Do you sometimes wish you were a doctor so ?
YOU: i want to complete my project as well
ELIZA: Why do you say your project as well ?
```

ALICE is a natural language processing bot which uses pattern matching for retrieving responses. The information is stored in Artificial Intelligence Markup Language also known as AIML files. But, the drawback is that AIML has a relatively weak pattern matching, can be time-consuming and difficult to maintain.



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```
Rupesh: hello
ALICE: Hi there!
Rupesh: i need help
ALICE: Can you ask for help in the form of a question?
Rupesh: can you have me?
ALICE: No I don't think I have any you. But I do have a collection of
gossip.
Rupesh: tell me gossip
ALICE: Hal said he translate binary code into a language and
communicate the language to me.
Rupesh: my name is rupesh
ALICE: I am always glad to make new friends, Rupesh.
Rupesh: do you know my name?
ALICE: You said your name is Rupesh?
Rupesh: how long will you remember my name
ALICE: I will store your name in a hash table until the next time my
program restarts. After that, it will remain in my long-term log files.
```

## PROPOSED SYSTEM

Our chatbot provides the correct exact answer for the certain question that has been asked , it always provides the probability of answer that are related to the question that has been asked .Each individual question the same doubt in different way but the answer for all the different question been asked will be similar .Accordingly our chatbot does not fail but provides the exact answer to all the related question for the particular subject .

## ADVANTAGES OF PROPOSED SYSTEM

- This system is particularly developed to resolve the queries related to Education field .
- It brings into play the most currently evolved technologies and methods.
- This system utilizes TensorFlow, a software library which has the most efficient elapsed time and also faster compilation time.
- Developing chat bot using TensorFlow made the chat more flexible to be deployed on multiple CPUs and GPUs
- The chat bot offers comfortable GUI to all groups of users.

## V. CHATBOT DESIGN PROCESS

### MODULE DESIGN SPECIFICATION

- Preparing dataset
- Pre-Processing
- Classification
- Developing Learning model
- Testing model
- Query mapping and getting answer



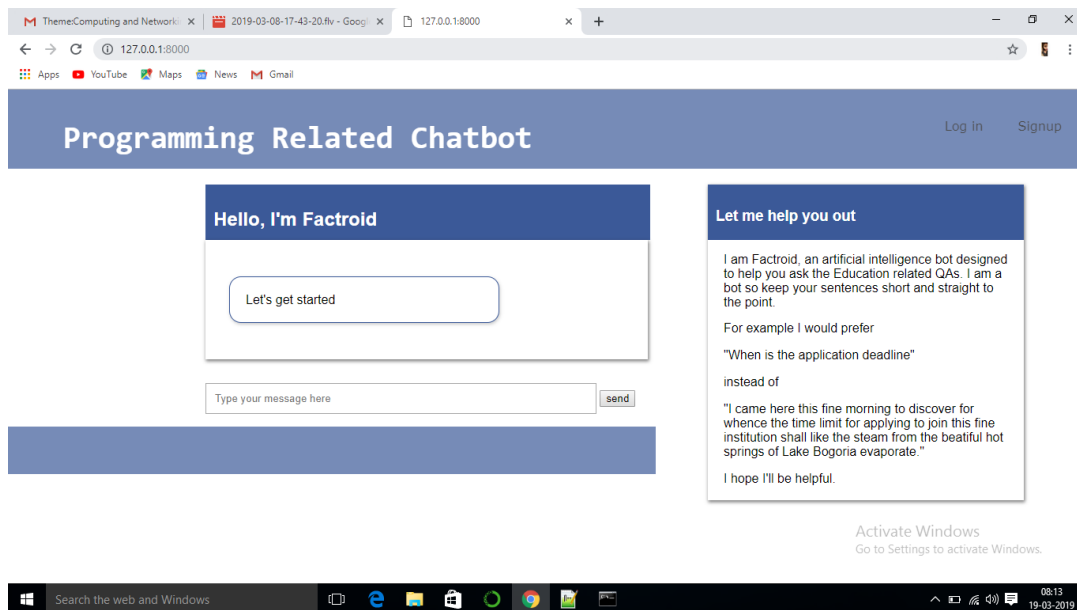
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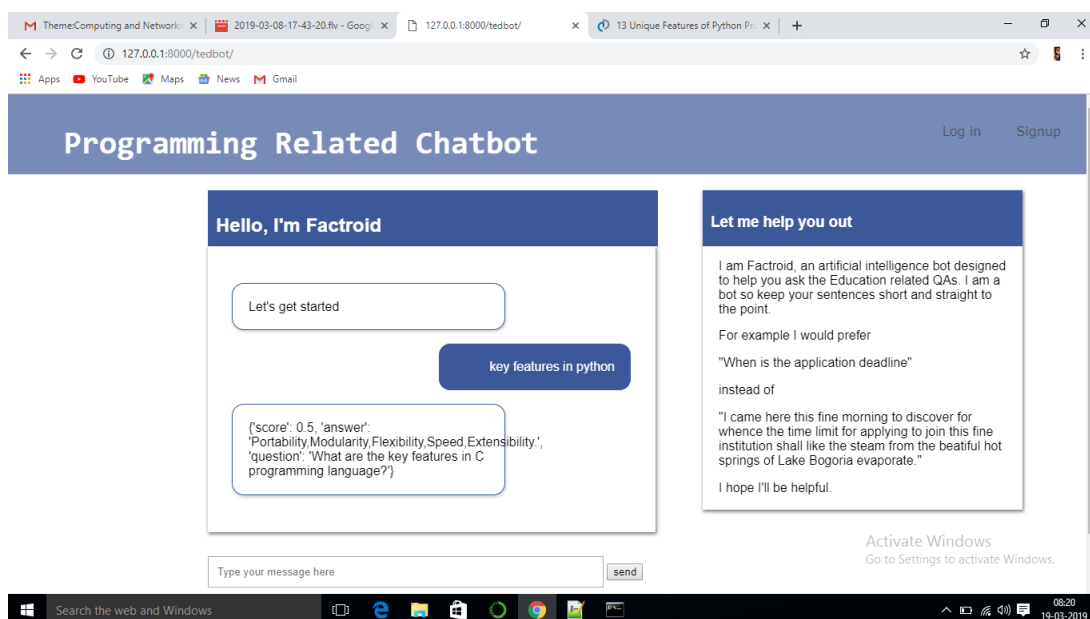
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## RESULT SCREENSHOT



This is the screenshot of the CHATBOT . Here we can ask the question and the BOT provides the answer related to the particular question been queried by the student .



This is the screenshot of the CHATBOT with the example of question and answer related to PYTHON language . This how the BOT works when the student wants to clarify their doubts in the particular subject .



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## VI. CONCLUSION AND FUTURE ENHANCEMENT

It can be said that this chat bot is implemented based on currently evolving technologies and methods. by the recent survey on comparing the training performance of different frameworks, tensorflow has achieved the most efficient elapsed time along with a faster compile time. Hence, developing chat bot using tensorflow made the chat more flexible to be deployed on multiple cpus and gpus. Thus, the chat bot is proved to provide optimality in both development and deployment phases.

The chatbot can be trained to support multilingual queries to enable internationalisation support. it can also be further developed as a mobile application.

Obviously, this chat bot satisfies the main objective goal of its design that is to provide people with appropriate and the most trustable information related to education field. The chat bot offers comfortable GUI to all groups of users with future in the hands of technology, this chat bot is one step look ahead project for assisting people in gathering specific kind of information.

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