Ecommerce Chat Bot using PyTorch

AISR MINI PROJECT REPORT

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DECLARATION

I/We affirm that the project work titled **"ECOMEMRCE CHAT BOT USING PYTORCH"** being submitted in partial fulfillment for the award of the degree of **Bachelor of Technology in Computer Science and Engineering** is the original work carried out by me/us. It has not formed the part of any other project work submitted for award of any degree or diploma, either in this or any other University.

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BONAFIDE CERTIFICATE

Certified That This Project Report Is **"ECOMMERCE CHAT BOT USING PYTORCH"** The Bonafide Work of Sanjay, Vinay, Madhu Kiran, Bhavani who carried out The project work under my supervision.

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CHAPTER 1

INTRODUCTION

Conversational models are a popular study subject in artificial intelligence. Chatbots may be found in a number of scenarios, such as customer service apps and online helpdesks. These bots are frequently powered by retrieval-based models, which generate prepared replies to specific types of inquiries. These models may be adequate in a very constrained area, such as a company's IT helpdesk, but they are not strong enough for more broad use-cases. Teaching a machine to have a meaningful conversation with a person in various domains is an open research subject. Deep learning's recent surge has enabled strong generative models such as Google's Neural Conversational Model, which represents a significant step toward multi-domain generative conversational models. In our project, we used PyTorch to construct this type of model.

Chatbots are transforming the E-commerce industry and enabling merchants to provide better purchasing experiences. The use of AI chatbots in business is rapidly increasing. According to Global Market Insights, the global market for chatbots will be worth more than $1.3 billion by 2024. Chatbots simplify a broad matrix of complicated interactions and move organizations ahead as part of a larger transformation to automate corporate processes and technologies that support customer care in the e-commerce industry.

CHAPTER- 2
FEATURES

The Features of Chatbots in E-commerce :

In the realm of e-commerce, chatbots are replacing the experience customers have with businesses with the one they have with friends. They learn and adapt to complicated business challenges and provide speedy answers to consumer enquiries because they are created with AI and driven by a specified set of rules, much like people. Let's look at some of the advantages of adopting chatbots for your e-commerce firm.

1. 24×7 Support

Most clients anticipate companies to be open every day of the week, 24 hours a day. While maintaining a customer support personnel around-the-clock is a (expensive) option, chatbots allow you to do away with that expense while still ensuring that your clients are taken care of right away, regardless of the time of day. Providing service at all hours is a terrific method to guarantee client pleasure.

2. Personalization

Chatbots may also be used to gather visitor data, which can then be utilised to improve product recommendations and suggestions. You may customise product pages and increase customer loyalty and affinity by having a thorough understanding of consumer enquiries, requirements, and preferences. Chatbots may also advise clients when an item is out of stock, propose suitable alternatives based on their preferences, and let them know when their order is scheduled to arrive. For instance, the chatbot of global retailer H&M inquires about clients' personal preferences and suggests goods

appropriately. Personalization is crucial in e-commerce, and chatbots are a terrific way to create a stronger, more relevant connection.

3. Reduced Costs

Having chatbots do most (or probably all) of your customer service activities can help save a substantial amount of money on customer service. Efficient customer assistance by chatbots requires less human support, allowing you to drive your focus on more critical aspects of your e-commerce site, such as page layout or checkout. You can also dramatically reduce human error and enable efficient customer service with minimal resource costs.

4. Product Guidance

Very often, e-commerce visitors get lost in the maze of millions of products. Chatbots can help such customers find the exact product they are looking for in a huge catalog and directly jump to the checkout page, or obtain information on current sales. By providing answers or advice to specific customer inquiries, chatbots can guide clients and enable them to make purchases on the fly. For example, eBay's ShopBot guides customers through their products, asks questions to understand their needs, and offers recommendations like a real sales associate.

CHAPTER- 3

ALGORITHM

PYTORCH :

PyTorch is an efficient Deep Learning tensor library based on Python and Torch that is mostly used for GPU and CPU applications. PyTorch is preferred over other Deep Learning frameworks such as TensorFlow and Keras because it use dynamic computation graphs and is entirely Pythonic. It enables scientists, developers, and neural network debuggers to execute and test code segments in real time. As a result, users do not have to wait for the complete code to be implemented before determining if a portion of the code works or not.

The two main features of PyTorch are:

- Tensor Computation (similar to NumPy) with strong GPU (Graphical Processing Unit) acceleration support
- Automatic Differentiation for creating and training deep neural networks

CHAPTER – 4
SOURCE CODE

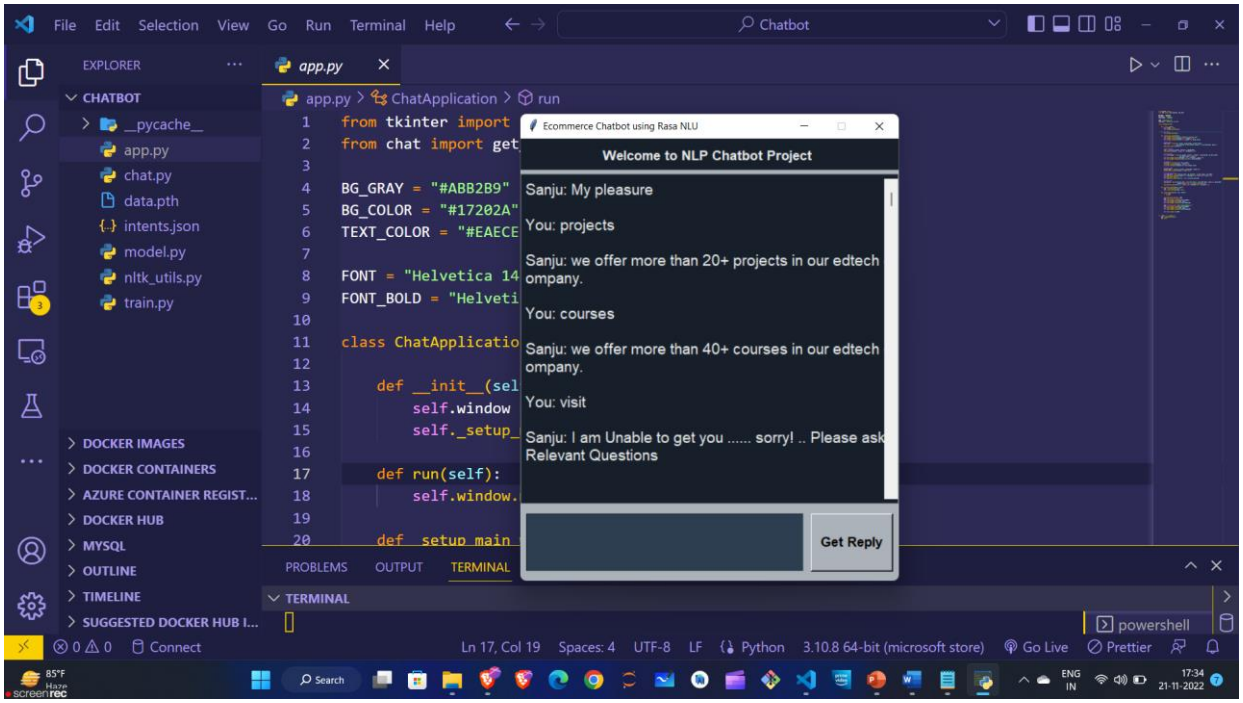
```
from tkinter import *
from chat import get_response, bot_name

BG_GRAY = "#ABB2B9"
BG_COLOR = "#17202A"
TEXT_COLOR = "#EAECEE"

FONT = "Helvetica 14"
FONT_BOLD = "Helvetica 13 bold"

class ChatApplication:

    def __init__(self):
        self.window = Tk()
        self._setup_main_window()

    def run(self):
        self.window.mainloop()

    def _setup_main_window(self):
        self.window.title("Ecommerce Chatbot using Rasa NLU")
        self.window.resizable(width=False, height=False)
        self.window.configure(width=470, height=550, bg=BG_COLOR)

        # head label
        head_label = Label(self.window, bg=BG_COLOR, fg=TEXT_COLOR,
```

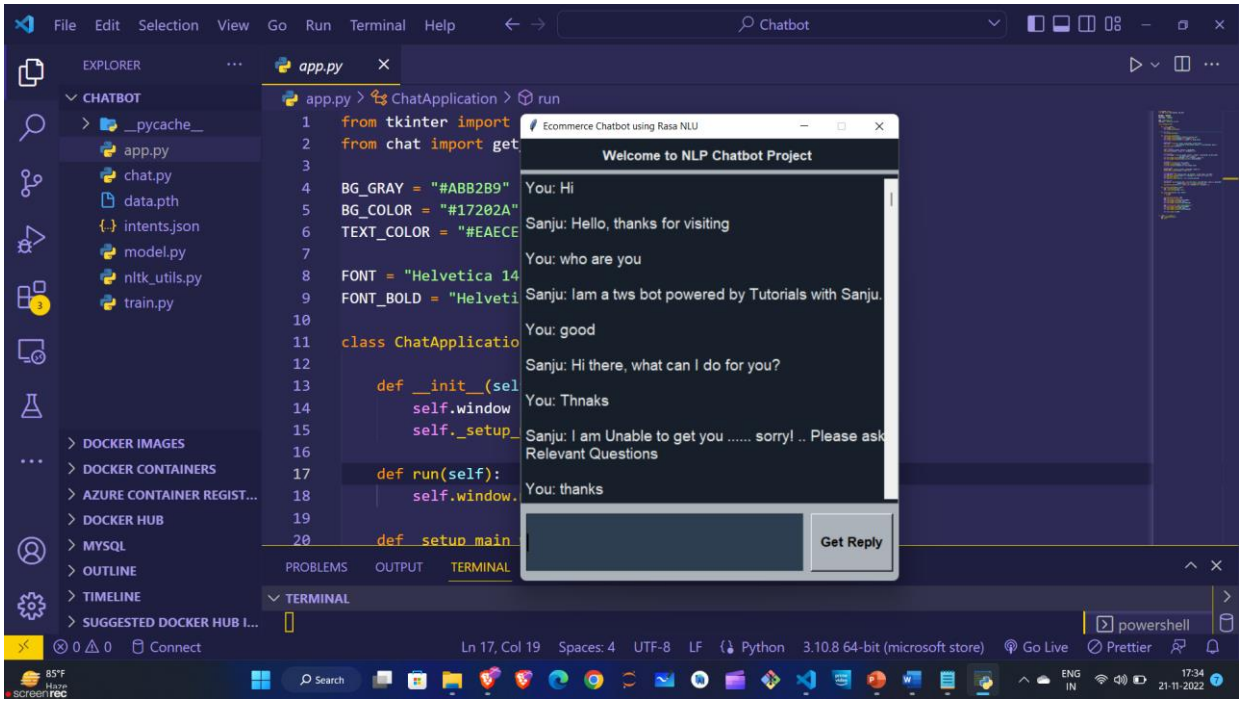
```
                    text="Welcome to NLP Chatbot
Project ", font=FONT_BOLD, pady=10)
        head_label.place(relwidth=1)

        # tiny divider
        line = Label(self.window, width=450,
bg=BG_GRAY)
        line.place(relwidth=1, rely=0.07, relheight=0.012)

        # text widget
        self.text_widget = Text(self.window, width=20,
height=2, bg=BG_COLOR, fg=TEXT_COLOR,
                                font=FONT, padx=5, pady=5)
        self.text_widget.place(relheight=0.745,
relwidth=1, rely=0.08)
        self.text_widget.configure(cursor="arrow",
state=DISABLED)

        # scroll bar
        scrollbar = Scrollbar(self.text_widget)
        scrollbar.place(relheight=1, relx=0.974)

scrollbar.configure(command=self.text_widget.yview)

        # bottom label
        bottom_label = Label(self.window,
bg=BG_GRAY, height=80)
        bottom_label.place(relwidth=1, rely=0.825)

        # message entry box
        self.msg_entry = Entry(bottom_label,
bg="#2C3E50", fg=TEXT_COLOR, font=FONT)
```

```
        self.msg_entry.place(relwidth=0.74,
relheight=0.06, rely=0.008, relx=0.011)
        self.msg_entry.focus()
        self.msg_entry.bind("<Return>",
self._on_enter_pressed)

        # send button
        send_button = Button(bottom_label, text="Get
Reply", font=FONT_BOLD, width=20,
bg=BG_GRAY,
                             command=lambda:
self._on_enter_pressed(None))
        send_button.place(relx=0.77, rely=0.008,
relheight=0.06, relwidth=0.22)

    def _on_enter_pressed(self, event):
        msg = self.msg_entry.get()
        self._insert_message(msg, "You")

    def _insert_message(self, msg, sender):
        if not msg:
            return

        self.msg_entry.delete(0, END)
        msg1 = f"{sender}: {msg}\n\n"
        self.text_widget.configure(state=NORMAL)
        self.text_widget.insert(END, msg1)
        self.text_widget.configure(state=DISABLED)

        msg2 = f"{bot_name}: {get_response(msg)}\n\n"
        self.text_widget.configure(state=NORMAL)
        self.text_widget.insert(END, msg2)
```

```
        self.text_widget.configure(state=DISABLED)

        self.text_widget.see(END)


if __name__ == “__main__”:
    app = ChatApplication()
    app.run()
```

CHAPTER-5
SCREENSHOTS





CHAPTER – 6
CONCLUSION

From my perspective, chatbots or smart assistants with artificial intelligence are dramatically changing businesses. There is a wide range of chatbot building platforms that are available for various enterprises, such as e-commerce, retail, banking, leisure, travel, healthcare, and so on.

Chatbots can reach out to a large audience on messaging apps and be more effective than humans. They may develop into a capable information-gathering tool in the near future.

AI and chatbots are helpful in assisting brand teams, but they cannot replace a writer or editor to create compelling content. We have to overcome this section for the future approach

CHAPTER-7

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2. **https://www.ibm.com/products/watson-assistant/artificial-intelligence**