

Simple AI Chatbot (Healthcare)

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In [1]: # Import necessary libraries from nltk
import nltk
from nltk.chat.util import Chat, reflections
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In [2]: # Define patterns and corresponding responses tailored for a healthcare setting
# Each entry in 'pairs' consists of a regex pattern and a list of appropriate responses
pairs = [
    [
        r"(hi|hello|hey|good morning|good evening)",
        ["Hello! How can I assist you with your health today?", "Hi there! What health"]
    ],
    [
        r"(.*) (fever|cough|headache|cold|flu)(.*)",
        [
            "I'm sorry to hear that you're experiencing {1}. How long have you been fe
            \"{1.capitalize()} can be uncomfortable. Have you consulted with a doctor a
        ]
    ],
    [
        r"(.*) symptoms of (.*)",
        [
            "Common symptoms of {1} include fatigue, fever, and aches. However, it's b
            "Symptoms of {1} can vary. Are you experiencing any specific symptoms?"
        ]
    ],
    [
        r"(.*) treat (.*)",
        [
            "Treatment for {1} depends on the severity and cause. It's important to co
            "For treating {1}, healthcare professionals may recommend various options.
        ]
    ],
    [
        r"(.*) appointment(.*)",
        [
            "You can schedule an appointment by contacting our clinic at (123) 456-789
            "To book an appointment, please visit our website or call our office durin
        ]
    ],
    [
        r"(.*) emergency(.*)",
        [
            "If you're experiencing a medical emergency, please call 911 or visit the
            "For emergencies, it's crucial to seek immediate medical attention by call
        ]
    ],
    [
        r"(.*) insurance(.*)",
        [

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        "We accept various insurance plans. Could you please specify which insurance plan you have?",
        "For insurance-related queries, please contact our billing department at (800) 555-1234."
    ],
    [
        r"(.*) hours(.*)",
        [
            "Our clinic operates from 8 AM to 6 PM, Monday through Friday.",
            "We are open from 8 AM to 6 PM on weekdays. Do you want to schedule a visit?"
        ]
    ],
    [
        r"thank you|thanks",
        ["You're welcome! Is there anything else I can assist you with?", "My pleasure!"]
    ],
    [
        r"(no|nothing|that's all|no thanks|no, thank you)",
        ["Alright! If you need anything else, feel free to ask. Have a great day!"]
    ],
    [
        r"(bye|goodbye|exit|quit)",
        ["Goodbye! Take care of your health.", "Farewell! Stay healthy."]
    ],
    [
        # Default response for any unmatched input
        r"(.*)",
        [
            "I'm sorry, I didn't understand that. Could you please rephrase your question?",
            "Could you provide more details or clarify your question?"
        ]
    ]
]

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In [3]: # Define the chatbot function
def healthcare_chatbot():
    # Display a welcome message and a disclaimer when the chatbot starts
    print("Hello! I am your healthcare assistant chatbot.")
    print("Please note that I am not a medical professional, and my responses are for informational purposes only.")
    print("For professional medical advice, please consult a qualified healthcare provider.")
    print("You can type 'exit' or 'quit' anytime to end the conversation.\n")

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In [4]: # Create a Chat object with the pairs and reflections
        # 'reflections' helps in converting user inputs to appropriate responses (e.g., "I'm sorry, I didn't understand that.")
chat = Chat(pairs, reflections)

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In [ ]: # Start the conversation
chat.converse()

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>Hi
Hi there! What health-related question do you have?
>Can I schedule an appointment?
To book an appointment, please visit our website or call our office during business hours.
>Thank you!
My pleasure! Let me know if you have any other questions.
>No.
Alright! If you need anything else, feel free to ask. Have a great day!

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In [ ]: # Run the chatbot if this script is executed directly
        if __name__ == "__main__":
            healthcare_chatbot()
```