

# AI chatbot in Telegram

Personal Project  
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Wesley Tan

# 01

## Preparations

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## 01 BACKGROUND

For this project, I would need to obtain a API key to implement AI into my code. In this case, I will be choosing the **DeepSeek AI** due to its availability.

## 02 OBTAINING API KEY

**Openrouter.com** provides wide varieties of AI models that can be used in coding. Fortunately, they offer **DeepSeek R1** model for free. As this project is not for commercial use, a free AI model will be sufficient for this project.

## 03 OBTAINING TELEGRAM KEY

To obtain the telegram key for our code, I would need to create a Telegram bot to implement our AI model. **@Botfather** allows me to create our bot of choice and providing me with the necessary key

## 04 CODING SPACE

I will be using **Visual Studio Code** to do the coding. **Python** will be the main language used and I will be using **OpenAI** and **Telebot** to assist me in this project.

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Coding

# CODING USING PYTHON

Before I start coding, I would need to import the **OpenAI** and **Telebot** service into my Visual Studio Code. Then, I will be assigning the API and Telegram keys to their respective variable. Fortunately, the Openrouter website has provided some example of how I can be assigning them.

## Importing library/service

```
from openai import OpenAI
from telebot import TeleBot
from telebot import types
import os
```

- By using “pip install openai” and “pip install telebot” in my terminal, the library/service will automatically be installed into my Visual Code Studio.
- This will allow me to run the code and test for any bugs.

## Assigning API Key and Telegram Key

```
client = OpenAI(
    base_url = "https://openrouter.ai/api/v1",
    api_key = "API_KEY",
)

tele_key = "Telegram_Key"
```

- Since I am using a non-openai model, I would need to include the base url to prevent my API key be sent into the wrong server.
- I will also be assigning the keys with a new name to prevent myself from repeatedly typing out the code again.

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Coding (Body)

# Coding (body)

By using syntax provided by Telebot, I able to code a welcome message, retrieving the user enquires and send it as a question to the AI model. The DeepSeek AI model will then do its processing before producing the result which then I will have to code out as a text response.

```
def handle_command(chat_id, text):
    bot.send_message(chat_id, "Please use /start to start the chat with me!")

@bot.message_handler(commands=['start'])
def start(message):
    username = message.from_user.first_name
    bot.send_message(message.chat.id, f'Hello {username}! I am Chippy! Ask me anything!')

@bot.message_handler(content_types=['text'])
def handle_text(message):
    chat_id = message.chat.id
    text = message.text.strip().lower()

    if text.startswith('/'):
        handle_command(chat_id, text)
    else:
        handle_user_message(chat_id, text)

def handle_user_message(chat_id, text):
    response = chat_with_openai(text)
    bot.send_message(chat_id, response)

def chat_with_openai(text):
    messages = [
        {
            "role": "user",
            "content": text
        }
    ]
    response = client.chat.completions.create(
        model='deepseek/deepseek-r1:free',
        messages=messages
    )

    return response.choices[0].message.content

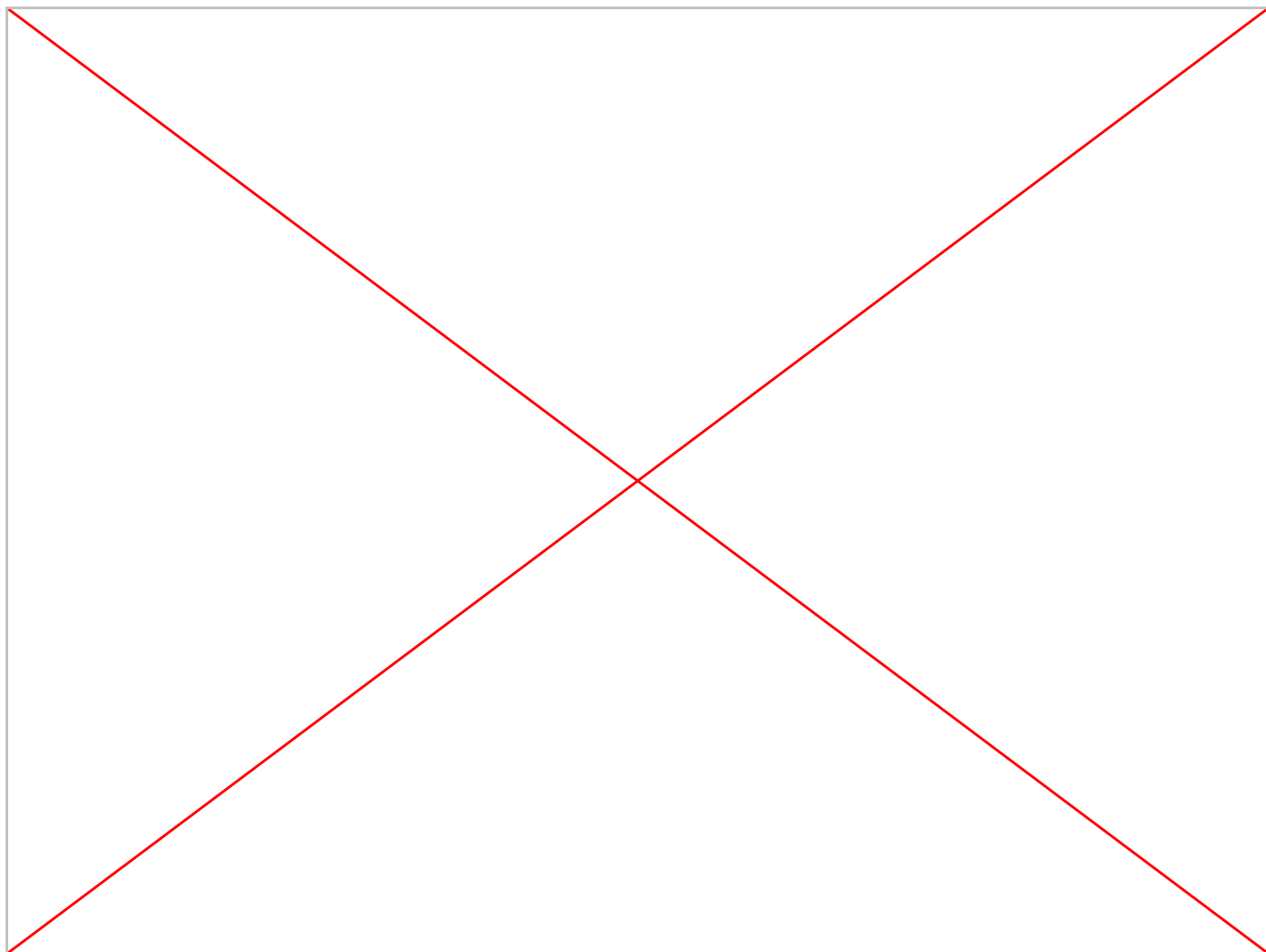
bot.polling(none_stop=True)
```

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Result





## Demonstration of Telegram Chat

This video shows the result on how  
the AI Model operates on Telegram  
Chat.

# Conclusion

## 01 RESPOND SPEED

After running the code, I have come to realized that the response speed of the Model AI is slow comparatively to just using the web version. This may be due to the server speed or the DeepSeek AI "chain-of-thought" algorithms.

## 02 POTENTIAL

As the world continue it advancement into a more technological reliant state, having AI in a messaging app offers powerful advantages, such as instant responses, smart suggestions, automated assistance, and even personalized interactions, making communication faster and more efficient.

## 03 WHAT HAVE I LEARNED

Coding is essential because it drives technological advancements, enhances problem-solving skills, and empowers individuals to create software, automate tasks, and develop innovative solutions that shape the modern world.

## 04 WHAT CAN BE DONE BETTER

I will be committing to be better at coding, allowing me to significantly enhance my skills, streamline my current project, and develop highly efficient, innovative, and impactful solutions.

THANK  
YOU  
For  
Reading!