

## Step 1: Set Up Your Environment

1. **Create a Project Folder:** Organize your files in a project folder, such as `gpt4o_chatbot`.
2. **Set Up a Virtual Environment:** Inside the folder, create a virtual environment:

```
1. python -m venv venv
2. source venv/bin/activate # For Windows: venv\Scripts\activate
```

```
/home/aron/.nushlogin file.
aron@ASD:~$ python -m venv venv
source venv/bin/activate # For Windows: venv\Scripts\activate
Command 'python' not found, did you mean:
  command 'python3' from deb python3
  command 'python' from deb python-is-python3
```

```
(venv) aron@ASD:~$ python3 -m venv venv
```

3. **Install Dependencies:** Install the required packages using pip:

```
1. pip install openai streamlit python-dotenv fitz youtube-transcript-api
```

- o `openai`: For interacting with the OpenAI API.
- o `streamlit`: To create a web-based user interface.
- o `python-dotenv`: To handle environment variables.
- o `fitz`: For PDF processing.
- o `youtube-transcript-api`: To extract transcripts from YouTube videos.

```
(venv) aron@ASD:~$ pip install openai streamlit python-dotenv fitz youtube-transcript-api
Requirement already satisfied: openai in ./venv/lib/python3.10/site-packages (0.28.0)
Collecting streamlit
  Downloading streamlit-1.39.0-py2.py3-none-any.whl (8.7 MB)
    8.7/8.7 MB 1.3 MB/s eta 0:00:00
Collecting python-dotenv
  Downloading python_dotenv-1.0.1-py3-none-any.whl (19 kB)
Collecting fitz
  Downloading fitz-0.0.1.dev2-py2.py3-none-any.whl (20 kB)
Collecting youtube-transcript-api
  Downloading youtube_transcript_api-0.6.2-py3-none-any.whl (24 kB)
Requirement already satisfied: aiohttp in ./venv/lib/python3.10/site-packages (from openai) (3.10.8)
Requirement already satisfied: requests>=2.20 in ./venv/lib/python3.10/site-packages (from openai) (2.32.3)
Requirement already satisfied: tqdm in ./venv/lib/python3.10/site-packages (from openai) (4.66.5)
Collecting tornado<7,>=6.0.3
  Downloading tornado-6.4.1-cp38-abi3-manylinux_2_5_x86_64.manylinux1_x86_64.manylinux_2_17_x86_64.manylinux2014_x86_64.whl (436 kB)
    436.8/436.8 KB 727.8 kB/s eta 0:00:00
Collecting pyarrow>=7.0
  Downloading pyarrow-17.0.0-cp310-cp310-manylinux_2_28_x86_64.whl (39.9 MB)
    39.9/39.9 MB 695.9 kB/s eta 0:00:00
Requirement already satisfied: click<9,>=7.0 in ./venv/lib/python3.10/site-packages (from streamlit) (8.1.7)
Collecting gitpython!=3.1.19,<4,>=3.0.7
  Downloading GitPython-3.1.43-py3-none-any.whl (207 kB)
    207.3/207.3 KB 142.2 kB/s eta 0:00:00
Collecting watchdog<6,>=2.1.5
  Downloading watchdog-5.0.3-py3-none-manylinux2014_x86_64.whl (79 kB)
    79.3/79.3 KB 408.5 kB/s eta 0:00:00
Collecting packaging<25,>=20
  Downloading packaging-24.1-py3-none-any.whl (53 kB)
    54.0/54.0 KB 526.1 kB/s eta 0:00:00
```

Install PyMuPDF Correctly: Install PyMuPDF using:

```
1. pip install PyMuPDF
```

```
(venv) aron@ASD:~/streamlet$ pip install PyMuPDF
Collecting PyMuPDF
  Downloading PyMuPDF-1.24.11-cp38-abi3-manylinux2014_x86_64.manylinux_2_17_x86_64.whl (19.6 MB)
    19.6/19.6 MB 5.2 MB/s eta 0:00:00
Installing collected packages: PyMuPDF
Successfully installed PyMuPDF-1.24.11
```

## Step 2: Obtain an API Key

1. **Create/Open a .env file** in your project folder and add your OpenAI API key:

```
1. OPENAI_API_KEY=your_openai_api_key
```

```
(venv) aron@ASD:~$ OPENAI_API_KEY=sk-proj-...
```

## Step 3: Create the chatbot.py Script

1. **Create a Python Script:** Name it `chatbot.py` and add the following code:

```
1. import streamlit as st
2. from openai import OpenAI
3. from dotenv import load_dotenv
4. import os
5. import fitz
6. from urllib.parse import urlparse
7. from youtube_transcript_api import YouTubeTranscriptApi
8.
9. load_dotenv()
10.
11. st.title("Mini Chat-Bot")
12. st.write("Upload File")
13. uploaded_file = st.file_uploader("Choose a PDF file", type="pdf")
14. st.markdown("Put YouTube video link below")
15. raw_transcript = st.text_input("Link")
16.
17. client = OpenAI(api_key=os.getenv("OPENAI_API_KEY"))
18.
19. if "openai_model" not in st.session_state:
20.     st.session_state.openai_model = "gpt-4o-mini"
21.
22. if "messages" not in st.session_state:
23.     st.session_state.messages = []
24.
25. # Extract YouTube transcript
26. parsed_url = urlparse(raw_transcript)
27. if parsed_url.query:
28.     video_id = parsed_url.query.split("=")[1]
29.     transcript = YouTubeTranscriptApi.get_transcript(video_id)
30.     video_text = " ".join([content["text"] for content in transcript])
31.     st.session_state.messages.append({"role": "system", "content": video_text})
32.
33. if st.button("Summarize Video"):
34.     summarized_video = client.chat.completions.create(
35.         model=st.session_state.openai_model,
```

```

36.         messages=[{"role": "user", "content": f"Summarize the following YouTube video
content: {video_text}"]}
37.     )
38.     st.session_state.messages.append({"role": "assistant", "content":
summarized_video.choices[0].message.content})
39.
40. # Extract text from uploaded PDF
41. if uploaded_file is not None:
42.     docs = fitz.open(stream=uploaded_file.read(), filetype="pdf")
43.     pdf_text = "".join([page.get_text() for page in docs])
44.     st.session_state.messages.append({"role": "system", "content": pdf_text})
45.
46.     if st.button("Summarize Text"):
47.         summarize_text = client.chat.completions.create(
48.             model=st.session_state.openai_model,
49.             messages=[{"role": "user", "content": f"Summarize the following content:
{pdf_text}"]}
50.         )
51.         st.session_state.messages.append({"role": "assistant", "content":
summarize_text.choices[0].message.content})
52.
53. # Display conversation
54. for message in st.session_state.messages:
55.     if message["role"] != "system":
56.         with st.chat_message(message["role"]):
57.             st.markdown(message["content"])
58.
59. # Chatbot interaction
60. if prompt := st.chat_input("Enter message here"):
61.     st.session_state.messages.append({"role": "user", "content": prompt})
62.     response = client.chat.completions.create(
63.         model=st.session_state.openai_model,
64.         messages=[{"role": msg["role"], "content": msg["content"]} for msg in
st.session_state.messages]
65.     )
66.     st.session_state.messages.append({"role": "assistant", "content":
response.choices[0].message.content})

```

```
arion@ASD: ~/streamlet
import streamlit as st
from openai import OpenAI
from dotenv import load_dotenv
import os
import fitz
from urllib.parse import urlparse
from youtube_transcript_api import YouTubeTranscriptApi

load_dotenv()

st.title("Mini Chat-Bot")
st.write("Upload File")
uploaded_file = st.file_uploader("Choose a PDF file", type="pdf")
st.markdown("Put YouTube video link below")
raw_transcript = st.text_input("Link")

client = OpenAI(api_key=os.getenv("OPENAI_API_KEY"))

if "openai_model" not in st.session_state:
    st.session_state.openai_model = "gpt-4o-mini"

if "messages" not in st.session_state:
    st.session_state.messages = []

# Extract YouTube transcript
parsed_url = urlparse(raw_transcript)
if parsed_url.query:
    video_id = parsed_url.query.split("=")[1]
    transcript = YouTubeTranscriptApi.get_transcript(video_id)
    video_text = " ".join([content["text"] for content in transcript])
    st.session_state.messages.append({"role": "system", "content": video_text})
```

## Step 4: Run the Application

1. **Run the Script:** Start the Streamlit app by running the following command in your terminal:

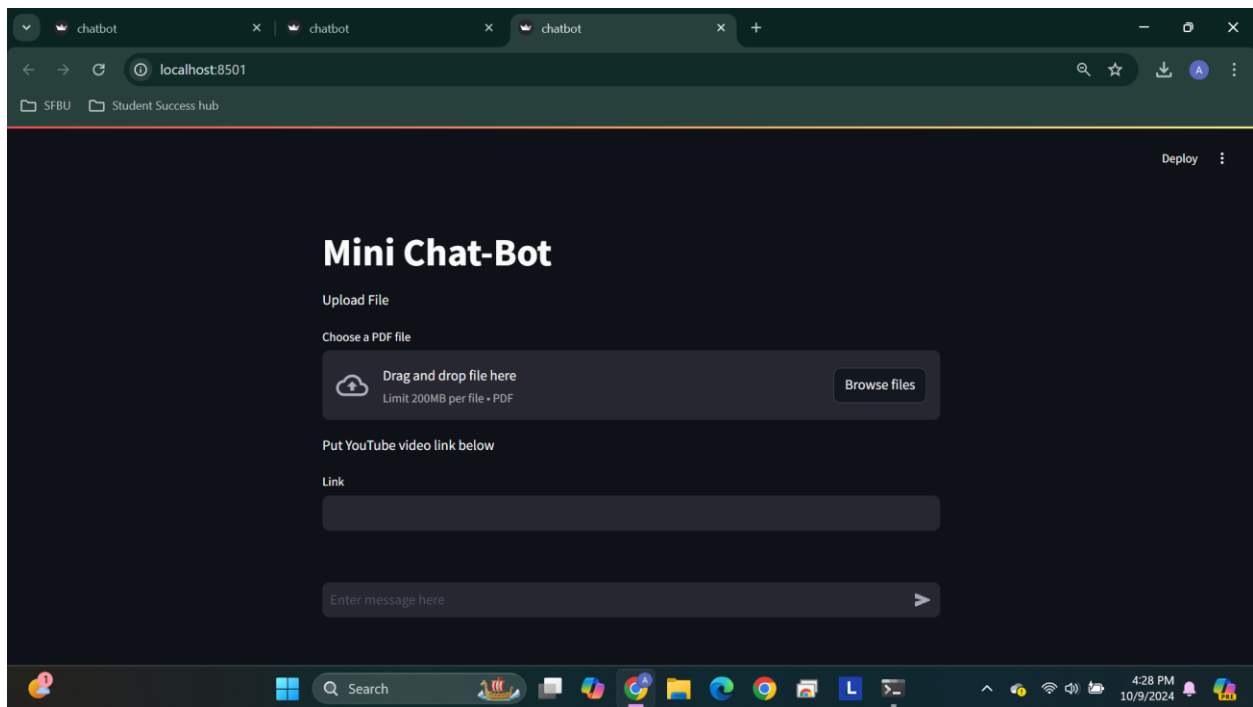
```
1. streamlit run chatbot.py
```

```
(venv) arion@ASD:~/streamlet$ streamlit run chatbot.py

You can now view your Streamlit app in your browser.

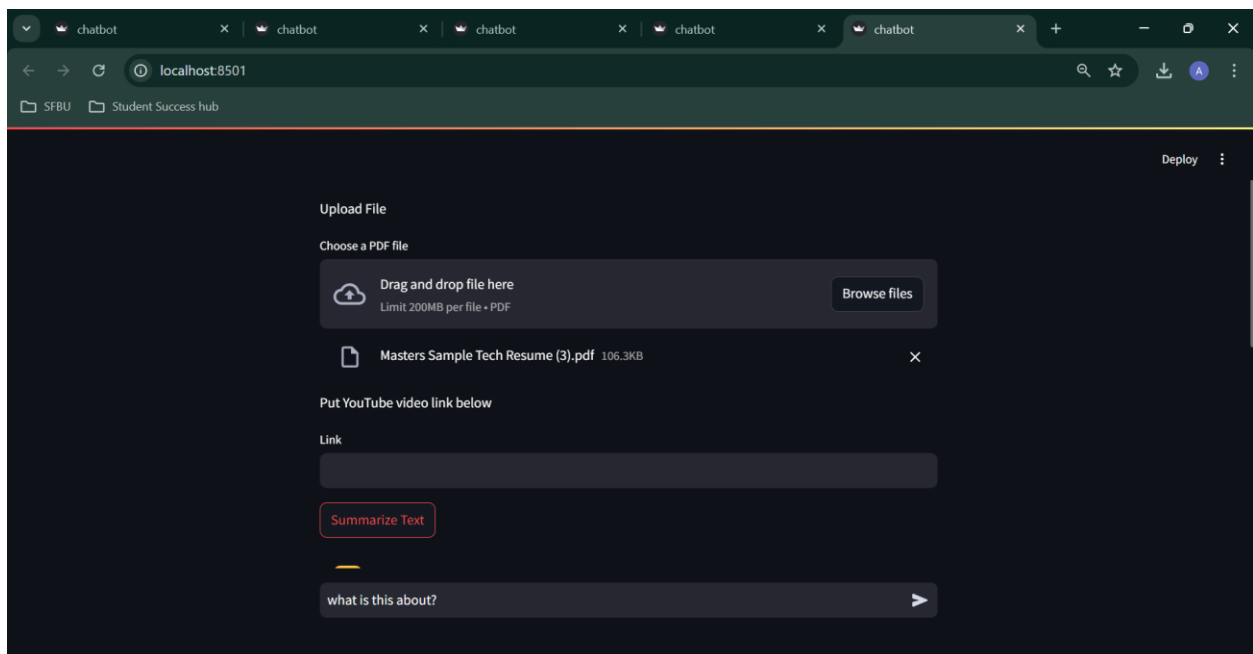
Local URL: http://localhost:8501
Network URL: http://172.29.22.83:8501
```

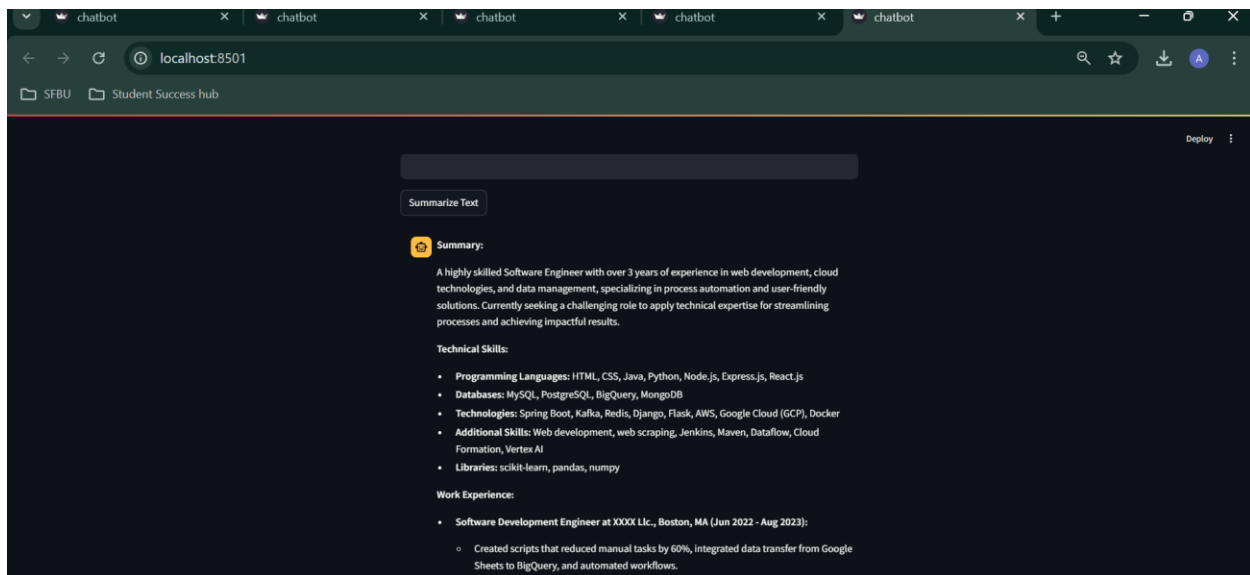
2. **Access the Web Interface:** Open the link provided in your terminal, typically <http://localhost:8501>.



## Step 5: Test the Functionality

1. **Upload a PDF:** Use the "Upload File" section to upload a PDF and click "Summarize Text" to get a summary.





### Work Experience:

- **Software Development Engineer at XXXX Llc., Boston, MA (Jun 2022 - Aug 2023):**
  - Created scripts that reduced manual tasks by 60%, integrated data transfer from Google Sheets to BigQuery, and automated workflows.
- **Software Testing Engineer at XXXXX, Ltd., London, UK (Jun 2020 - Jul 2022):**
  - Customized Django applications, improved deployment times through AWS solutions, and developed integration test scripts for APIs.
- **Intern at XXXXXXX, Ltd., London, UK (Jan 2020 - Jun 2020):**
  - Automated integration testing for microservices, created mock environments, and developed a web scraping tool.

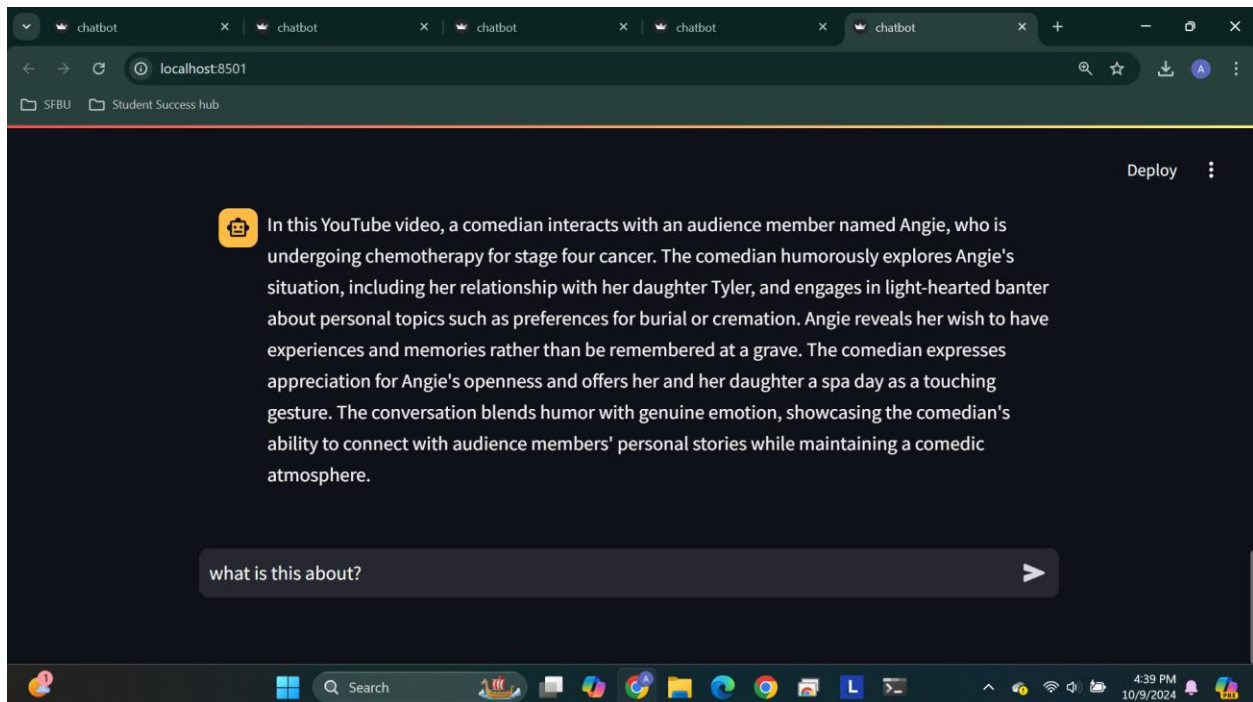
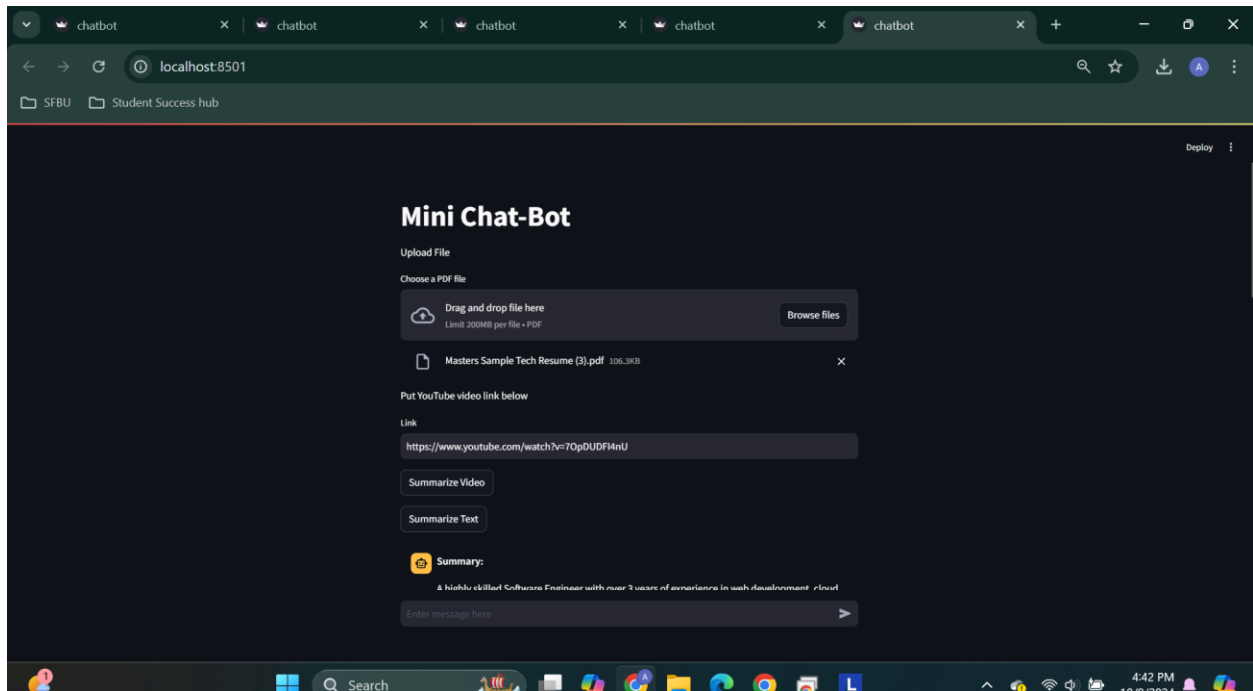
### Academic Projects:

- Developed projects including a Spring Boot Yeoman generator, a customer support system using OpenAI APIs, an On-Campus Student Accommodation system, an automated restaurant system using React.js and Arduino, a Taxi Aggregator application, and an IoT smart home control system.

### Education:

- **Master's in Computer Science (Expected 2026)** from San Francisco Bay University.
- **BSc in Computer Science and Engineering** from University of East London (Jul 2016 - Aug 2020).

2. **Provide a YouTube Link:** Enter a YouTube link with a transcript in the input field and click "Summarize Video."



3. **Chat with the Bot:** Use the input field to enter queries, and the bot will respond using GPT-4o Mini.

