

eqwbvoxhr

February 15, 2025

```
[17]: import streamlit as st
from PyPDF2 import PdfReader
from langchain_google_genai import ChatGoogleGenerativeAI
from langchain.text_splitter import CharacterTextSplitter
from langchain_community.vectorstores import FAISS
from langchain_google_genai import GoogleGenerativeAIEmbeddings
from langchain.memory import ConversationBufferMemory
from langchain.chains import ConversationalRetrievalChain
from langchain.prompts import PromptTemplate
```

```
[6]: import os
os.environ["GOOGLE_API_KEY"] = "AIzaSyCxKCDxVCPWGYpPn74G-bJ1M0ZQ5nghZb4"
```

```
[7]: # Page configuration
st.set_page_config(page_title="Chat with PDF", page_icon=" ")
st.title("Chat with your PDF ")
```

```
2025-02-15 10:22:22.513 WARNING
streamlit.runtime.scriptrunner_utils.script_run_context: Thread 'MainThread':
missing ScriptRunContext! This warning can be ignored when running in bare mode.
2025-02-15 10:22:22.513 WARNING
streamlit.runtime.scriptrunner_utils.script_run_context: Thread 'MainThread':
missing ScriptRunContext! This warning can be ignored when running in bare mode.
2025-02-15 10:22:22.864
Warning: to view this Streamlit app on a browser, run it with the
following
command:

streamlit run
C:\Users\jithe\AppData\Local\Programs\Python\Python312\Lib\site-
packages\ipykernel_launcher.py [ARGUMENTS]
2025-02-15 10:22:22.866 Thread 'MainThread': missing ScriptRunContext! This
warning can be ignored when running in bare mode.
```

```
[7]: DeltaGenerator()
```

```
[8]: # Initialize session start variables
if "conversation" not in st.session_state:
    st.session_state.conversation = None
if "chat_history" not in st.session_state:
    st.session_state.chat_history = []
if "processComplete" not in st.session_state:
    st.session_state.processComplete = None
```

2025-02-15 10:23:15.587 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.

2025-02-15 10:23:15.588 Session state does not function when running a script without `streamlit run`

2025-02-15 10:23:15.589 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.

2025-02-15 10:23:15.590 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.

2025-02-15 10:23:15.590 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.

2025-02-15 10:23:15.591 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.

2025-02-15 10:23:15.592 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.

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```
[9]: def get_pdf_text(pdf_docs):
    text = ""
    for pdf in pdf_docs:
        pdf_reader = PdfReader(pdf)
        for page in pdf_reader.pages:
            text += page.extract_text()
    return text
```

```
[20]: def get_text_chunks(text):
    text_splitter = CharacterTextSplitter(
        separator="\n",
        chunk_size=1000,
        chunk_overlap=200,
        length_function=len
    )
    chunks = text_splitter.split_text(text)
    return chunks
```

```
[21]: def get_conversation_chain(vectorstore):
    llm = ChatGoogleGenerativeAI(model="gemini-1.0-pro", temperature=0.7)

    template = """You are a helpful AI assistant that helps users understand
    their PDF documents.
    Use the following pieces of context to answer the question at the end.
    If you don't know the answer, just say that you don't know, don't try to
    make up an answer.

    {context}

    Question: {question}
    Helpful Answer: """

    prompt = PromptTemplate(input_variables=['context', 'question'],
    template=template)

    memory = ConversationBufferMemory(
        memory_key='chat_history',
        return_messages=True
    )

    conversation_chain = ConversationalRetrievalChain.from_llm(
        llm=llm,
        retriever=vectorstore.as_retriever(),
        memory=memory,
        combine_docs_chain_kwargs={'prompt': prompt}
    )
    return conversation_chain
```

```
[22]: def process_docs(pdf_docs):
    try:
        # Get PDF text
        raw_text = get_pdf_text(pdf_docs)

        # Get text chunks
        text_chunks = get_text_chunks(raw_text)

        # Create embeddings
        embeddings = GoogleGenerativeAIEmbeddings(model="models/embedding-001")

        # Create vector store using FAISS
        vectorstore = FAISS.from_texts(texts=text_chunks, embedding=embeddings)

        # Create conversation chain
        st.session_state.conversation = get_conversation_chain(vectorstore)
```

```

        st.session_state.processComplete = True

    return True
except Exception as e:
    st.error(f"An error occurred during processing: {str(e)}")
    return False

```

```

[23]: # Sidebar for PDF upload
with st.sidebar:
    st.subheader("Your Documents")
    pdf_docs = st.file_uploader(
        "Upload your PDFs here",
        type="pdf",
        accept_multiple_files=True
    )

    if st.button("Process") and pdf_docs:
        with st.spinner("Processing your PDFs..."):
            success = process_docs(pdf_docs)
            if success:
                st.success("Processing complete!")

```

```

2025-02-15 10:34:02.997 Thread 'MainThread': missing ScriptRunContext! This
warning can be ignored when running in bare mode.
2025-02-15 10:34:02.999 Thread 'MainThread': missing ScriptRunContext! This
warning can be ignored when running in bare mode.
2025-02-15 10:34:02.999 Thread 'MainThread': missing ScriptRunContext! This
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2025-02-15 10:34:03.001 Thread 'MainThread': missing ScriptRunContext! This
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2025-02-15 10:34:03.001 Thread 'MainThread': missing ScriptRunContext! This
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2025-02-15 10:34:03.007 Thread 'MainThread': missing ScriptRunContext! This
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2025-02-15 10:34:03.008 Thread 'MainThread': missing ScriptRunContext! This
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2025-02-15 10:34:03.008 Thread 'MainThread': missing ScriptRunContext! This
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2025-02-15 10:34:03.009 Thread 'MainThread': missing ScriptRunContext! This
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2025-02-15 10:34:03.010 Thread 'MainThread': missing ScriptRunContext! This
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2025-02-15 10:34:03.011 Thread 'MainThread': missing ScriptRunContext! This
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2025-02-15 10:34:03.012 Thread 'MainThread': missing ScriptRunContext! This
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```

```
[24]: # Main chat interface
if st.session_state.processComplete:
    user_question = st.chat_input("Ask a question about your documents:")

    if user_question:
        try:
            with st.spinner("Thinking..."):
                response = st.session_state.conversation({
                    "question": user_question
                })
                st.session_state.chat_history.append(("You", user_question))
                st.session_state.chat_history.append(("Bot",
↪response["answer"]))
        except Exception as e:
            st.error(f"An error occurred during chat: {str(e)}")
```

2025-02-15 10:34:18.244 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.

```
[27]: # Display chat history
for role, message in st.session_state.chat_history:
    with st.chat_message(role):
        st.write(message)
# Display initial instructions
else:
    st.write(" Upload your PDFs in the sidebar to get started!")
```

2025-02-15 10:34:54.611 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.

2025-02-15 10:34:54.614 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.

2025-02-15 10:34:54.615 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.

2025-02-15 10:34:54.617 Thread 'MainThread': missing ScriptRunContext! This warning can be ignored when running in bare mode.

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