



```
!pip install transformers
!pip install datasets
!pip install sentence-transformers
!pip install nltk
```

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10s

```
# Chat loop
print("Chatbot is ready! Type 'quit' to exit.")
chat_history_ids = None

while True:
    user_input = input("You: ")
    if user_input.lower() == 'quit':
        break

    new_input_ids = tokenizer.encode(user_input + tokenizer.eos_token, return_tensors='pt')

    bot_input_ids = torch.cat([chat_history_ids, new_input_ids], dim=-1) if chat_history_ids is not None else new_input_ids
    chat_history_ids = model.generate(bot_input_ids, max_length=1000, pad_token_id=tokenizer.eos_token_id)

    response = tokenizer.decode(chat_history_ids[:, bot_input_ids.shape[-1]:][0], skip_special_tokens=True)
    print("Bot:", response)
```



```
Chatbot is ready! Type 'quit' to exit.  
You: quit
```

✓
0s [26] `from datasets import load_dataset`

`# Example: Load a sample FAQ dataset (replace with your own CSV)`

```
faq_data = {  
    "questions": ["How do I reset my password?", "What is the return policy?"],  
    "answers": ["To reset your password, click on 'Forgot password' link on the login page.",  
                "You can return your product within 30 days of purchase."]  
}
```

✓
0s [27] `faq_data = {`
 `"questions": [`
 `"How do I reset my password?",`
 `"What is the return policy?"`
 `],`
 `"answers": [`
 `"To reset your password, click on 'Forgot password' link on the login page.",`
 `"You can return your product within 30 days of purchase."`
 `]`
`}`

4s



```
!pip install transformers sentencepiece
from transformers import pipeline

# Use 'question-answering' instead of 'retrieval-qa'
retriever_chatbot = pipeline("question-answering", model="deepset/roberta-base-squad2")

# Add your FAQ as context
faq_context = "\n".join([f"Q: {q}\nA: {a}" for q, a in zip(faq_data["questions"], faq_data["answers"])]

# Chatbot query
question = "Can I return an item I bought last week?"
response = retriever_chatbot(question=question, context=faq_context)
print(response["answer"])
```

```
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model.safetensors: 100% 496M/496M [00:07<00:00, 121MB/s]
tokenizer_config.json: 100% 79.0/79.0 [00:00<00:00, 6.93kB/s]
vocab.json: 100% 899k/899k [00:00<00:00, 4.76MB/s]
merges.txt: 100% 456k/456k [00:00<00:00, 28.5MB/s]
special_tokens_map.json: 100% 772/772 [00:00<00:00, 67.5kB/s]

Device set to use cpu
You can return your product within 30 days of purchase
```

```
[30] from sentence_transformers import SentenceTransformer, util

model = SentenceTransformer('all-MiniLM-L6-v2')
faq_embeddings = model.encode(faq_data["questions"], convert_to_tensor=True)

# Query
query = "How can I change my password?"
query_embedding = model.encode(query, convert_to_tensor=True)

# Compute similarity
import torch
cos_scores = util.pytorch_cos_sim(query_embedding, faq_embeddings)[0]
best_match_idx = torch.argmax(cos_scores).item()

# Return best match
print("Matched FAQ:", faq_data["questions"][best_match_idx])
print("Answer:", faq_data["answers"][best_match_idx])
```



Matched FAQ: How do I reset my password?

Answer: To reset your password, click on 'Forgot password' link on the login page.


```

[31] from sentence_transformers import SentenceTransformer, util

model_embed = SentenceTransformer('all-MiniLM-L6-v2')

faq_questions = faq_data['questions']
faq_answers = faq_data['answers']
faq_embeddings = model_embed.encode(faq_questions, convert_to_tensor=True)

def get_answer(user_query):
    query_embedding = model_embed.encode(user_query, convert_to_tensor=True)
    scores = util.pytorch_cos_sim(query_embedding, faq_embeddings)
    best_idx = torch.argmax(scores)
    return faq_answers[best_idx]

# Test
print(get_answer("How can I change my password?"))

```



To reset your password, click on 'Forgot password' link on the login page.

23s

```
def intelligent_chat(user_query):
    # Try FAQ matching first
    answer = get_answer(user_query)
    if answer:
        return answer

    # Fallback to chatbot model
    input_ids = tokenizer.encode(user_query + tokenizer.eos_token, return_tensors='
    output_ids = model.generate(input_ids, max_length=1000, pad_token_id=tokenizer.eos_token_id)
    return tokenizer.decode(output_ids[:, input_ids.shape[-1]:][0], skip_special_tokens=True)

# Chat loop
while True:
    query = input("You: ")
    if query.lower() == 'quit':
        break
    print("Bot:", intelligent_chat(query))
```

Loading...

You: hi
Bot: To reset your password, click on 'Forgot password' link on the login page.
You: ok
Bot: You can return your product within 30 days of purchase.
You: sure
Bot: You can return your product within 30 days of purchase.
You: quit

```
✓ [34] !pip install gradio
0s

import gradio as gr

def chatbot_interface(user_input):
    return intelligent_chat(user_input)

gr.Interface(fn=chatbot_interface, inputs="text", outputs="text", title="Customer Support Chatbot").launch()

def chatbot_interface(user_input):
    return intelligent_chat(user_input)

gr.Interface(fn=chatbot_interface, inputs="text", outputs="text", title="Customer Support Chatbot").launch()
```

Customer Support Chatbot

user_input

output

Clear

Submit

Flag

Use via API 🚀 · Built with Gradio 🍷 · Settings ⚙️

Customer Support Chatbot

user_input

how do i reset my password?

Clear

Submit

output

To reset your password, click on 'Forgot password' link on the login page.

Flag