

## Assignment: Chat Summary Generator using OpenAI in Django

### Objective

Develop a Django backend service that accepts a set of user and bot messages and returns a summarized version of the chat using OpenAI's GPT API. The API should be production-grade and testable via Postman or cURL.

### Functional Requirements

#### 1. API Endpoint:

- POST /api/summarize/

- Accepts JSON body:

```
{
  "chat": [
    {"role": "user", "message": "Hi, I need help with my account."},
    {"role": "bot", "message": "Sure, can you tell me your account number?"}
  ]
}
```

- Returns:

```
{
  "summary": "User asked about account issues and bot guided through verification steps."
}
```

#### 2. LLM Integration:

- Use OpenAI GPT-4 or GPT-3.5-turbo API.

- Ensure effective prompt design for concise, meaningful summaries.

#### 3. Django Backend:

- Use Django REST Framework.

- Follow proper project structure and modularity.

#### 4. Logging:

- Log requests and responses.

- (Optional) Store logs in SQLite or flat file.

### Bonus Objectives (Optional)

- Add LangChain or RAG integration.

- Support multiple conversations with session ID.

- Add authentication using DRF Token or JWT..

- Dockerize the backend.

## Evaluation Criteria

Criteria	Description
API Design	RESTful, modular, scalable
Prompt Engineering	Effective use of OpenAI for summaries
Code Quality	Clean structure, DRY principles, logging
Use of Django	DRF, serializers, views, middleware
Deployment	Bonus if deployed and functional

## Suggested File Structure

```
chat_summarizer/  
├── manage.py  
├── summarizer/  
│   ├── views.py  
│   ├── serializers.py  
│   ├── urls.py  
│   └── openai_utils.py  
├── chat_summarizer/  
│   ├── settings.py  
│   └── urls.py
```

## Submission Instructions

- Share a GitHub repository with:
  - Complete code
  - README with setup instructions
  - Sample API requests/responses
  - Deployment URL if available
- Submit within 24 hours

## Why This Assignment?

This task reflects real-world LLM API integration, tests Django REST API skills, evaluates NLP workflow knowledge, and aligns with your chatbot, API, and deployment experience.

**(Make sure not to use any LLM or ChatGPT for this assignment)**