



Recipe Recommendation System Using Python

Last Updated : 17 Jan, 2024

In this article, we will explore how to build a Recipe Recommendation System using Streamlit and OpenAI. We will create the GUI using the Streamlit library and recommend the recipe by using the OpenAI API. We will see in this article how we can create the [OpenAI](#) API and use it on our Recipe Recommendation System using a [Python](#) app.

Recipe Recommendation System Using Python

Here, we will create the step-by-step implementation of the Recipe Recommendation System using Python. Let's start.

Step 1: Generate OpenAI API

Procedure to Obtain OpenAI API Key:

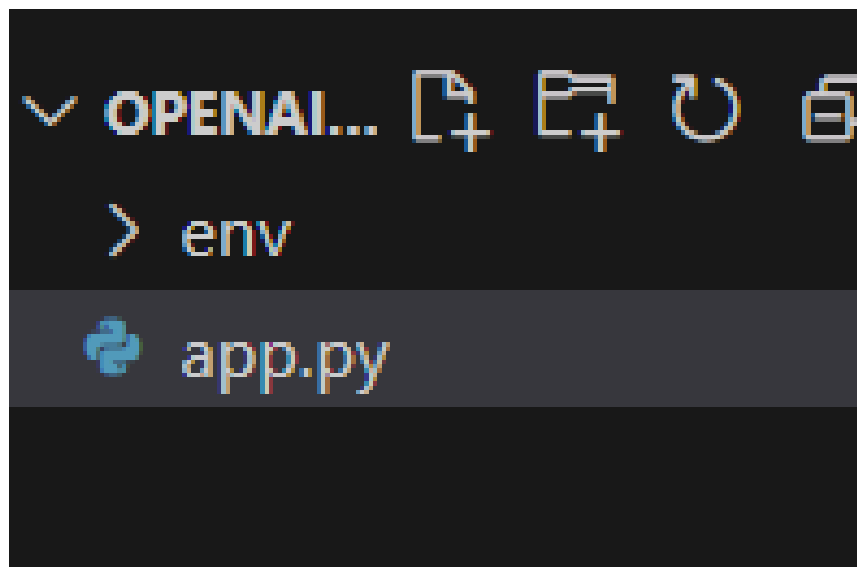
- Visit OpenAI's official website [OpenAI Platform](#).
- Sign in to your existing account or create a new one if needed.
- **Navigate to the API section:** Upon signing in, locate and access the API section on the website.
- **Create an API Key:** Follow the provided instructions to generate a new API key.
- Once generated, securely copy the API key and store it for future use.

Step 2: Create Virtual Environment

Create the [virtual environment](#) using the commands below.

```
python -m venv env
.\env\Scripts\activate.ps1
```

File Strcutrue



Step 3: Install Necessary Libraries

First, install Streamlit for creating a graphical user interface (GUI), OpenAI to access the OpenAI API, and [LangChain](#), which can be installed using the following command:

```
pip install streamlit
pip install openai
pip install langchain_community
```

Step 4: Import necessary libraries

Here, the code imports the Streamlit library as `st` and the `OpenAI` class from the `langchain_community.llms` module.

```
import streamlit as st
from langchain_community.llms import OpenAI
```

Step 5: Implement the Logic

In this example, Python code creates a user-friendly app that suggests recipes. Users enter their OpenAI API key on the side, list their favorite ingredients in a form, and click to get recipe ideas. The app uses OpenAI API to provide detailed recipes. If everything goes smoothly, it displays the suggested recipe. If there's an issue, the app shows an error message.

Python3

```

1  import streamlit as st
2  from langchain_community.llms import OpenAI
3
4  st.title('GeekCook ???? || Recipe Recommendation System')
5
6  openai_api_key = st.sidebar.text_input('OpenAI API Key')
7
8  def generate_recommendations(input_text):
9      try:
10         llm = OpenAI(temperature=0.7,
11            openai_api_key=openai_api_key,
12            model='gpt-3.5-turbo-instruct')
13         prompt = f'Given the ingredients: {input_text}, suggest an easy-to-cook step-by-step recipe.'
14         response = llm(prompt)
15         return response
16     except Exception as e:
17         st.error(f'An error occurred: {str(e)}')
18
19  with st.form('my_form'):
20     user_input = st.text_area('Enter your preferred ingredients \
21        (separated by commas):')
22     submitted = st.form_submit_button('Get Recipe Recommendations')
23
24  if submitted and openai_api_key.startswith('sk-'):
25     recommended_recipe =
26     generate_recommendations(user_input)
27     st.info(recommended_recipe)

```

[Python Basics](#)
[Interview Questions](#)
[Python Quiz](#)
[Popular Packages](#)
[Python Projects](#)
[Practice Python](#)
[AI Wit](#)

Run the Server

```
streamlit run "app.py_file_path"
```

Output



Video Demonstration

Looking to dive into the world of programming or sharpen your Python skills? Our [Master Python: Complete Beginner to Advanced Course](#) is your ultimate guide to becoming proficient in Python. This course covers everything you need to build a solid foundation from fundamental programming concepts to advanced techniques. With **hands-on projects**, real-world examples, and expert guidance, you'll gain the confidence to tackle complex **coding challenges**. Whether you're starting from scratch or aiming to enhance your skills, this course is the perfect fit. Enroll now and master Python, the language of the future!

D chou... + Follow



Next Article

Employee Management System using
Python

Similar Reads

Movie Recommendation System using Django

In this article, we will guide you through the process of creating a comprehensive Movie Recommendation System with the added functionality of user...

8 min read

Recipe Meal Planner using Django

In this article, we will create the Recipe Meal Planner using Django step-by-step. Generally, we will implement the CRUD (Create, Read, Update, Delete)...

9 min read

Building Recommendation Engines using Pandas

In this article, we learn how to build a basic recommendation engine from scratch using Pandas. Building Movie Recommendation Engines using Pandas A...

7 min read

Movie recommendation based on emotion in Python

Movies that effectively portray and explore emotions resonate deeply with audiences because they tap into our own emotional experiences and...

4 min read

PyQt5 QCalendarWidget - Mapping Co-ordinate system to Calendar co-...

In this article, we will see how we can map the co-ordinate system of the QCalendarWidget. In order to do this we use mapFrom method, this translates...

2 min read

PyQt5 QCalendarWidget - Mapping co-ordinate system from Calendar co-...

In this article we will see how we can map the co-ordinate system from the QCalendarWidget. In order to do this we use mapTo method, this translates the...

2 min read

Python | System hardening and compliance reports using Lynis

Lynis is a battle-tested security tool for systems running Linux, macOS, or Unix-based operating systems. It performs an extensive health scan of your systems t...

5 min read

Python - Get Hardware and System information using platform module

In this article, we will see how we can show information about our system i.e processor name, name of system etc. The Platform module is used to retrieve as...

2 min read

List all the Microphones connected to System in Python using PyAudio and...

In this article, we are going to get the List ID and index of the microphones attached to the system. One should have knowledge about microphone ID while...

2 min read

Health Management System using Python

Sometimes we are so busy that we are not even able to care for our body and by caring we mean fitness, food, exercises and much more, and then we think that...

7 min read

Article Tags :

[Python](#)

[Geeks Premier League](#)

[OpenAI API](#)

[Geeks Premier League 2023](#)

Practice Tags :

[python](#)



Corporate & Communications Address:-
A-143, 9th Floor, Sovereign Corporate
Tower, Sector- 136, Noida, Uttar Pradesh
(201305) | Registered Address:- K 061,
Tower K, Gulshan Vivante Apartment,
Sector 137, Noida, Gautam Buddh
Nagar, Uttar Pradesh, 201305



[Company](#)

[Languages](#)

About Us
Legal
In Media
Contact Us
Advertise with us
GFG Corporate Solution
Placement Training Program
GeeksforGeeks Community

Python
Java
C++
PHP
GoLang
SQL
R Language
Android Tutorial
Tutorials Archive

DSA

Data Structures
Algorithms
DSA for Beginners
Basic DSA Problems
DSA Roadmap
Top 100 DSA Interview Problems
DSA Roadmap by Sandeep Jain
All Cheat Sheets

Data Science & ML

Data Science With Python
Data Science For Beginner
Machine Learning
ML Maths
Data Visualisation
Pandas
NumPy
NLP
Deep Learning

Web Technologies

HTML
CSS
JavaScript
TypeScript
ReactJS
NextJS
Bootstrap
Web Design

Python Tutorial

Python Programming Examples
Python Projects
Python Tkinter
Web Scraping
OpenCV Tutorial
Python Interview Question
Django

Computer Science

Operating Systems
Computer Network
Database Management System
Software Engineering
Digital Logic Design
Engineering Maths
Software Development
Software Testing

DevOps

Git
Linux
AWS
Docker
Kubernetes
Azure
GCP
DevOps Roadmap

System Design

High Level Design
Low Level Design
UML Diagrams
Interview Guide
Design Patterns
OOAD

Interview Preparation

Competitive Programming
Top DS or Algo for CP
Company-Wise Recruitment Process
Company-Wise Preparation
Aptitude Preparation
Puzzles

System Design Bootcamp

Interview Questions

School Subjects

Mathematics
Physics
Chemistry
Biology
Social Science
English Grammar
Commerce
World GK

GeeksforGeeks Videos

DSA
Python
Java
C++
Web Development
Data Science
CS Subjects

@GeeksforGeeks, Sanchhaya Education Private Limited, All rights reserved