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RESEARCH LABS

INNOVATION. AUTOMATION. ANALYTICS

PROJECT ON

GenAI App - AI Code Reviewer

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Objective:

The objective of this project is to develop a Python application that allows users to submit their Python code for review and receive feedback on potential bugs along with suggestions for fixes. The application should be user-friendly, efficient, and provide accurate bug reports and fixed code snippets.

UI and Functionality

I've been working on this cool app where you can get feedback on your Python code. I've made it super easy to use with a clean interface using Streamlit. You just paste your code in, and the app uses the OpenAI API to check it for bugs and suggest improvements. Plus, it gives you fixed code snippets to make things even easier.

Code

This code sets up a simple web application using Streamlit for analyzing and fixing code with the help of the OpenAI API

In [2]:
```
from openai import OpenAI
import streamlit as st
import os
```

In [3]:
```
cd C:\Users\DELL\Music\Code Reviewer
```

```
C:\Users\DELL\Music\Code Reviewer
```

In [4]:
```
current_directory = os.getcwd()

# Define the path to the API key file
api_key_file = os.path.join(current_directory, "keys", "api_key.txt")
```

In [5]:
```
# Check if the API key file exists
if os.path.exists(api_key_file):


    with open(api_key_file) as f:
        key = f.read().strip()

    # Set OpenAI API key
    OpenAI.api_key = key
else:
    st.error("API key file not found. Please make sure the API key file exists in the 'keys' directory.")
```

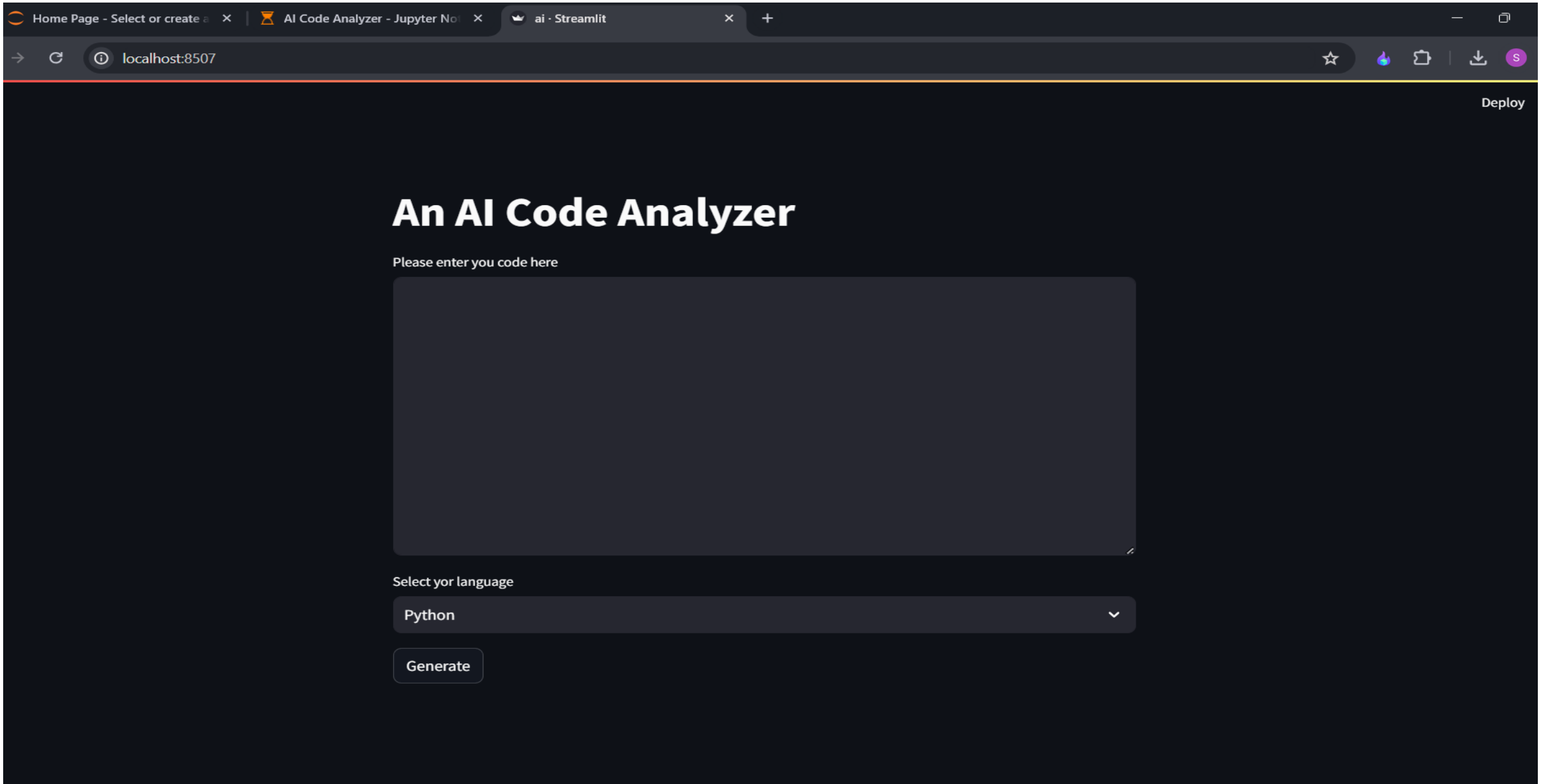
In [6]:
```python
def fix_code(language, code):
    prompt = f"Fix this {language} code {code}"
    response = client.chat.completions.create(
        model="gpt-3.5-turbo-16k-0613",
        messages=[
            {"role": "system", "content": "You are a helpful code assistant."},
            {"role": "user", "content": prompt}
        ]
    )
    response = response.choices[0].message.content
    print(response)
    return response
```

In [7]:
```python
def main():
    st.title("An AI Code Analyzer")

    code = st.text_area("Please enter your code here", height=300)
    language = st.selectbox("Select your language", ("Python", "JavaScript", "Java", "C#", "C", "C++", "Ruby",))

    if st.button("Generate"):
        if code.strip():
            fixed_code = fix_code(language, code)
            st.subheader("Code Analysis")
            if fixed_code:
                st.write(fixed_code)
            else:
                st.success("No issues found. The code is bug free.")
        else:
            st.error("Please enter some code before generating.")


    main()
```

In [ ]:
```
!streamlit run ai.py
```

AI Code Analyzer

Welcome to our Python code review application!



An AI Code Analyzer

Please enter you code here

```
import re
from bs4 import BeautifulSoup
from nltk.corpus import stopwords
from nltk.tokenize import word_tokenize,sent_tokenize
```

Select yor language

Python

Generate

Code Analysis

The provided Python code already includes the necessary import statements. Could you please provide more context or details on what exactly you need help with?

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An AI Code Analyzer

Please enter you code here

```
mport re
from bs4 import BeautifulSoup
from nltk.corpus import stopwords
from nltk.tokenize import word_tokenize,sent_tokenize
```

Select yor language

Python

Generate

Code Analysis

To fix the code, make the following adjustments:

1. Fix the Typo: "mport re" should be changed to "import re".

Here is the corrected code:

```python
import re
from bs4 import BeautifulSoup
from nltk.corpus import stopwords
from nltk.tokenize import word_tokenize, sent_tokenize
```

Now the code should run without any import errors.

If the given Code has Bugs

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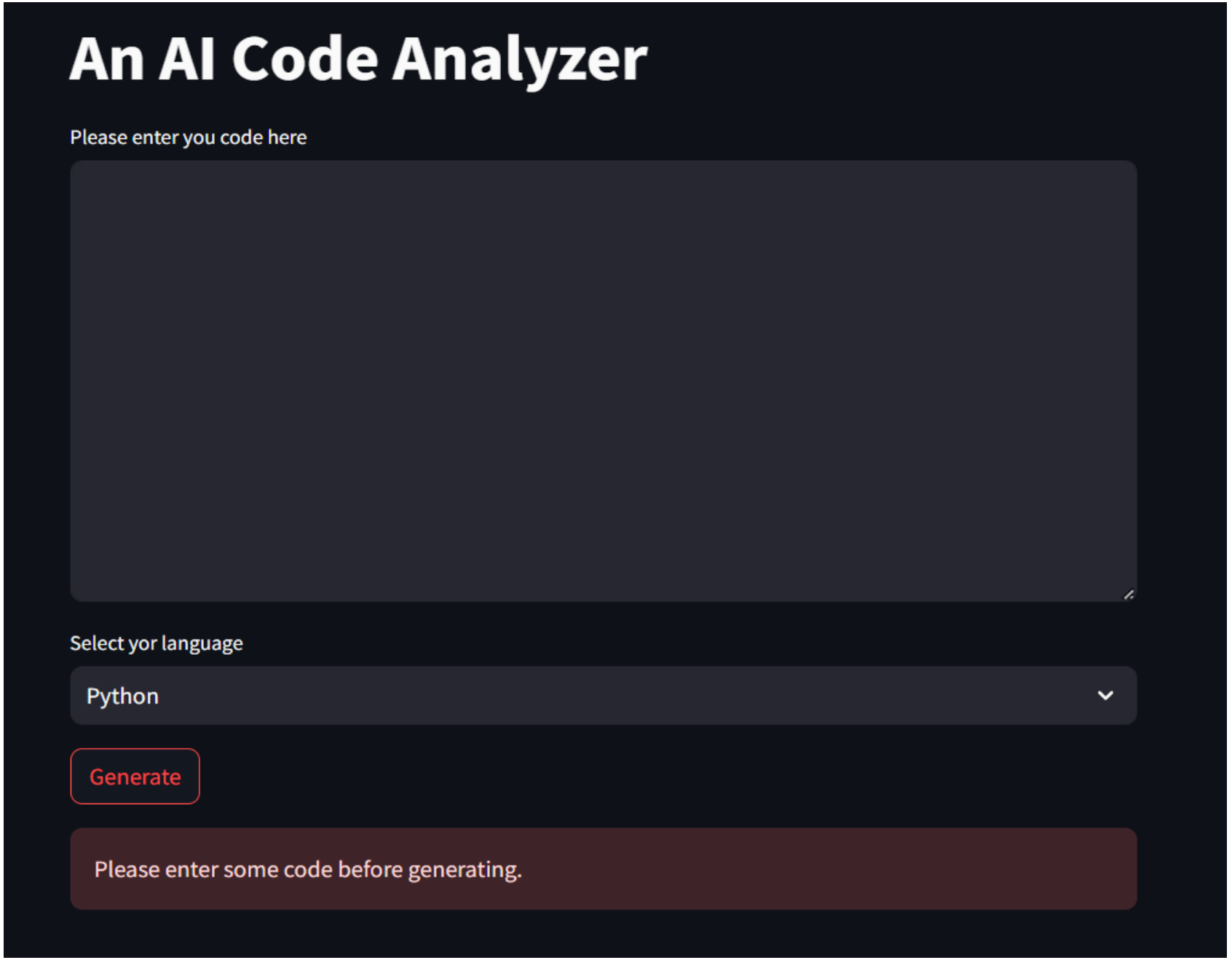

If no input given

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An AI Code Analyzer

Please enter you code here

```
num = float(input("Enter a number: "))
if num > 0:
  print("Positive number")
elif num == 0:
  print("Zero")
else:
  print("Negative number")
```

Select yor language

Ruby

Generate

If the given other language Code and select other language.

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Code Analysis

The code you provided is not in Ruby, but rather in Python. Here's the corrected version in Ruby:

```ruby
print "Enter a number: "
num = gets.chomp.to_f

if num > 0
   puts "Positive number"
elsif num == 0
   puts "Zero"
else
   puts "Negative number"
end
```

In Ruby, we use `print` for displaying the prompt and `gets.chomp.to_f` to read and convert user input to a floating-point number. We use `puts` to display the result.

THANK YOU

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