OpenAI API with Python Introduction

Eli the Computer Guy - August 6, 2019

The Only Constant is Change…

did the role of assistant change in openai api

Yes, OpenAI has made several updates and improvements to its API, including changes to the role and capabilities of the assistant over time. The assistant now can handle more complex tasks, provide more accurate and detailed responses, and support various functions like image generation, code execution, and browsing the web for real-time information. Additionally, the API has become more versatile and easier to integrate into different applications and services.

ChatGPT Doesn't Know OpenAI

Incorrect Method Calls: The OpenAI API method `images.generate` does not exist. Instead, you should use `openai.Image.create`.

Example request

```
1  from openai import OpenAI
2  client = OpenAI()
3
4  client.images.generate(
5    model="dall-e-3",
6    prompt="A cute baby sea otter",
7    n=1,
8    size="1024×1024"
9  )
```

IT'S NOT AI!!!!!
But it's still very cool…

- LLM's determine the statistical relationship between "tokens"

- Tokens are Words, Parts of Words and Symbols

- An LLM Breaks down a request and provides a response based off off the relationship between the tokens.

- The response then associates the words to the tokens of provide a human readable answer

- It's not racist, or sexist, or good, or bad…. It's math…

- An LLM is a single component of an "Intelligent" System.

ARCHITECTURE!!!

- Caching

- Databases

- Training Systems

- SOA

Pricing and Context Windows

- https://openai.com/api/pricing/

- Context Window Means Total Tokens Used for both Input and Output

- If limit hit OpenAI just stops in the middle of a sentence…

Setup OpenAI API

- python3 -m pip install openai

- https://platform.openai.com/docs/api-reference/introduction

API KEY

- Standard Variable

- Environment Variable

- Example

  - set-key.py

  - basic.py

- Don't Upload your Key to GitHub!!!!

Chat Request

- import openai

- Set API KEY

  - In Script

  - System Environment

- Model

- Parsing Return

- Example = basic.py

Roles

- System - Character of the Response - Only One

- Assistant - ??? It changed…

- User - users comments to OpenAI

Models

- Each model will respond differently. Sometime "worse" models actually respond better.

- You can use for loops to see the differences between models.

- https://platform.openai.com/docs/models

- Example = model-variation.py

Prompt Injection

- Manually or Dynamically add information to request

- "Who is MY president?"

- Skew AI Response before it gets to user…

- Example = injection.py

DALLE Image Request

- Size

  - Dall E 2 - 256x256, 512x511, 1024x1024

  - Dall E 3 - 1024x1024, 1792x1024, 1024x1792

- Download Images

- Examples

  - dalle.py

  - dalle-download.py

Labs

- lab-about-me.py

- lab-auto-blog.py

- lab-gallery.py