

Let's build an AI-powered API!

API Days Hong Kong
August 2022 | Uli Hitzel



**ELECTRIC
MINDS**



? Help



Playground

Load a preset... 

Save

View code

Share



I'm giving a talk at a conference. I came up with a title for the session, it is: "Live Hack: Create an AI-based API in 30 Minutes"

The title is not perfect, especially "AI-based API" sounds odd. Here are ten suggestions on how that term can be replaced with something better:

1: "Create an API with AI-powered capabilities in 30 minutes"

2: "Build an AI-powered API in 30 minutes"

3: "Create an API with AI features in 30 minutes"

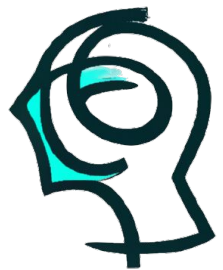
4: "Build an API with AI functionality in 30 minutes"

5: "Create an API powered by AI in 30

Submit



215



Founder,
Electric Minds



NUS Fellow



/in/uhitzel



/u1i



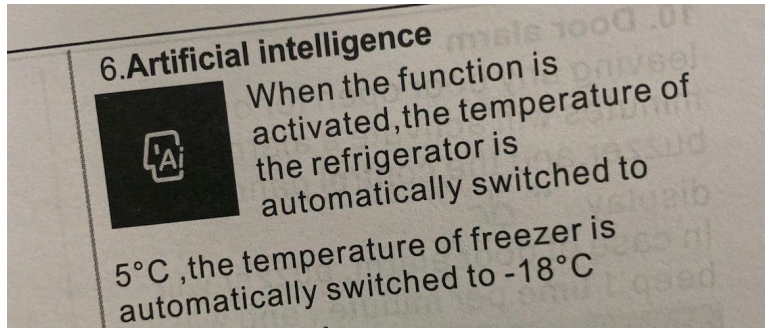
Agenda

1. **GPT-3 – Artificial Intelligence that also non-tech people can use!**
2. **Use Case: Content Moderation → Sentiment Analysis**
3. **Training the Model & Creating and Consuming an API**



Artificial Intelligence

- Intelligence Demonstrated by Machines
- AI vs Machine Learning
- The moment we understand how it works, we no longer think of it as “AI”



PICTURES OF THE FLOATING WORLD

An Art Collaboration Between Human and AI

<https://apigeek.net/art>



Salvador Dalí (b. 1934)
The Dream of Creation, 2022



Peter Gric (b. 1968)
Horses at the Beach, 2022

OpenAI: GPT-3



- “Generative Pretrained Transformer” version 3
- Neural network, leverages deep learning to generate human-like text -> it ‘just’ predicts text
- OpenAI research company: Elon Musk, Reid Hoffman, Sam Altman
- 175 billion trainable parameters, it ‘read’ 45TB of books, Wikipedia, and the internet

[Overview](#)[Documentation](#)[Examples](#)[Playground](#)[Save](#)[View code](#)[Share](#)[...](#)

 **Prompt**

Explain the concept of artificial intelligence and machine learning to a non-technical person in a few sentences.

Artificial intelligence and machine learning are the study and practice of making machines and computer programs that can perform tasks that normally require human intelligence. Machine learning is a subset of artificial intelligence in which computer programs are trained to make predictions from data without being explicitly programmed.

What are the benefits and concerns of artificial intelligence and machine learning?

The benefits of artificial intelligence and machine learning are that they can perform tasks more efficiently and accurately than humans. The downsides are that they may be biased and not able to make decisions that a human could make.

[Generate](#)

133

Potential Use Cases

- **Fraud Detection & Anti-Money Laundering:** identifying suspicious behavior based on historical data
- **Sentiment Analysis:** understanding customer sentiment and moderate content accordingly
- **Generate Insights from Unstructured Data:** identify trends and customer preferences



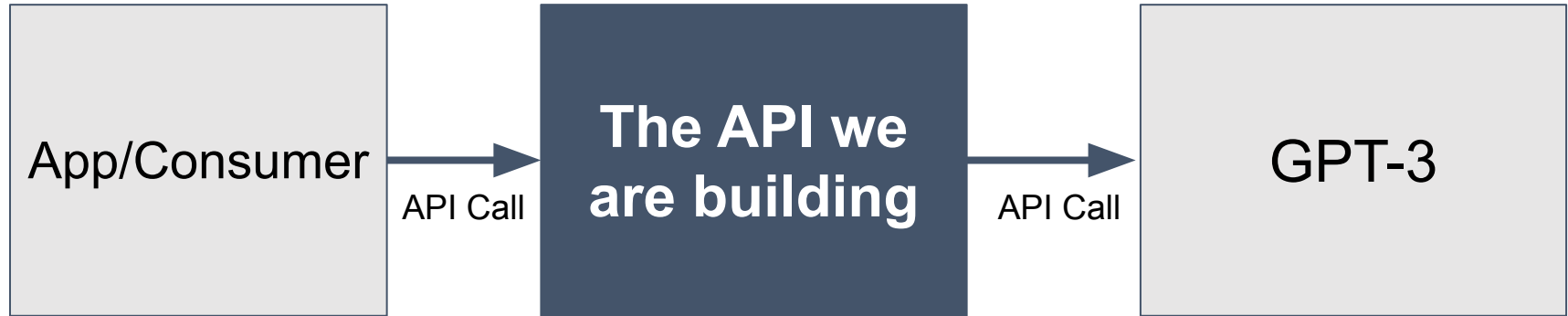
Content Moderation



"Thanks for shopping with us! Please write a quick review about your experience with us"

Our API says your customer is:	Based on this, you may decide to:
😄	→ publish review immediately, promote for other shoppers to see
😡	→ trigger a customer service agent to get in touch & try to resolve
💩	→ block the review, send notice
😞 / 😐	→ acknowledge & derive insights how to improve your service quality!

Let's Make an {"API"} !



POST https://api.mybackend.com/v1/sentiment_analysis

Body: e.g. "I love the product a lot, thanks for the great service!!"

→ **Response: positive, negative, neutral, upset**

Our Steps

1. Train the Model → OpenAI Playground
2. Generate Python / JavaScript Code
3. Add API wrapper



Analyzing sentiment from user input. The possible results are:
happy, neutral or upset:



Text: the product is terrible I want my money back!!!

Sentiment: upset

Text: loved it, will always buy again thanks!

Sentiment: happy

Text: everything ok thank you.

Sentiment: neutral

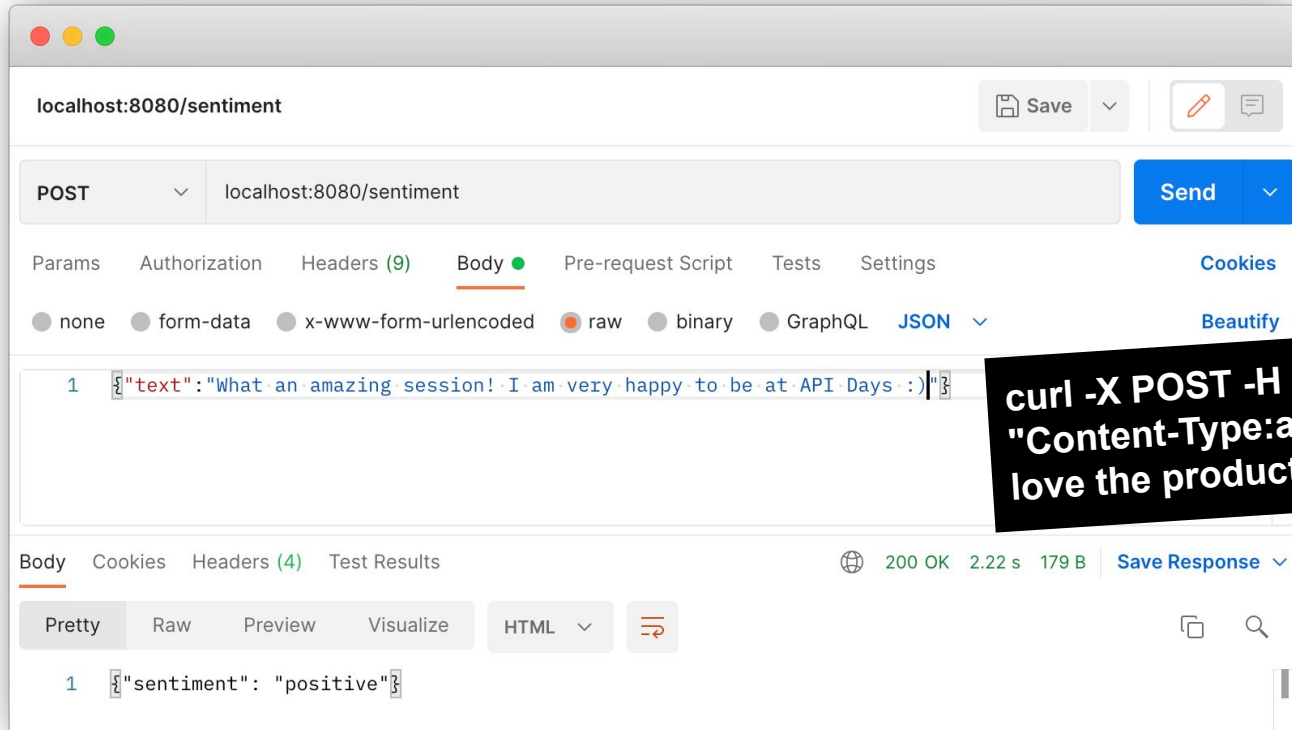
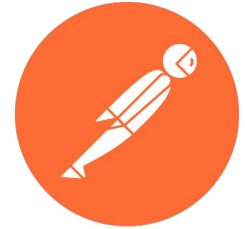
Text:

Python Code

```
1 import os
2 import openai
3 import json
4 from flask import Flask, request
5
6 openai.api_key = os.getenv("OPENAI_API_KEY")
7
8 def analyze_sentiment(input_text):
9
10     response = openai.Completion.create(
11         engine="text-davinci-002",
12         prompt="analyzing sentiment from user input. The possible results are: positive,negative,neutral,upset\n\ntext:the\n\nproduct is terrible I want my money back!!!\nsentiment:upset\n\ntext:loved it, will always buy again\n\nthanks!\nsentiment:positive\n\ntext:everything ok thank you\nsentiment:neutral\n\ntext:wasn't very happy about the\n\ndelay but overall ok\nsentiment:negative\n\ntext:" + input_text + "\nsentiment:",
13         temperature=0.7,
14         max_tokens=256,
15         top_p=1,
16         frequency_penalty=0,
17         presence_penalty=0
18     )
19
20     return(response["choices"][0]["text"])
21
22 app = Flask(__name__)
23 @app.route('/sentiment', methods=['POST'])
24 def apirequest():
25
26     if not request.json or not 'text' in request.json:
27         print(request.json)
28         abort(400)
29     sentiment=analyze_sentiment(request.json['text'])
30     return json.dumps({'sentiment': sentiment})
31 app.run(port=8080)
32
```



Consuming the API – Postman



**curl -X POST -H
"Content-Type:application/json" -d '{"text":"I
love the product"}' localhost:8080/sentiment**

u1i / sentiment-api-python-gpt3 Public

Code Issues Pull requests Actions Projects Wiki Security Insights

main 1 branch 0 tags

Go to file Code

About

No description provided

2745743 5 days ago 3 commits

Uli changed	
.gitignore	changed 5 days ago
README.md	changed 5 days ago
requirements.txt	changed 5 days ago
sentiment-api.py	changed 5 days ago

README.md

sentiment-api-python-gpt3

Create Python 3 environment

```
pip install -r requirements.txt
```

Set environment variable

Release

No releases

Package

No packages

Language

Python

<https://github.com/u1i/sentiment-api-python-gpt3>

Your Turn!

- Try out GPT-3:
<https://openai.com/api/>
- Enjoy some AI art:
<https://apigeek.net/art/>
- Let's connect on LinkedIn!

