Using Scikit-LLM for text similarity

Danial Khilji · Follow

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Since the launch of ChatGPT, its recognized as a huge leap of advancement in the field of AI not just because its powerful but also due to its huge reach to people, and as a result there has been a huge surge in new GPT integrated products in the market.

Scikit-LLM is another new product that provides seamless integration between scikit-learn and GPT models to give better GPT models access to data scientists. This package will help everyone speed up their projects and explore new more advanced GPT models.

In this article, I am going to show you how easy it is to use GPT model to calculate text similarity. I will use:

- Text to calculate GPT embeddings
- and then calculate their cosine similarity

Lets dig into coding without wasting more time!

Install the package:

```
!pip isntall scikit-llm
```

Load the important libraries:

```
from skllm.preprocessing import GPTVectorizer
from skllm.config import SKLLMConfig
import os

SKLLMConfig.set_openai_key(os.getenv("API_KEY"))
SKLLMConfig.set_openai_org(os.getenv("ORG_NAME"))
```

I am going to use GPTVectorizer to calculate text embeddings. SKLLMConfig is used to call OpenAI API credentials. If you save your credentials in a .env file (called environment variables), then you need to os.getenv to call the variables as I had done above. Otherwise you can also simply write your API credentials like:

```
SKLLMConfig.set_openai_key("123abc")
SKLLMConfig.set_openai_org("123abc")
```

Create a vector object:

```
model = GPTVectorizer()
```

Use .fit method to calculate vectors:

```
vectors = model.fit_transform(["how old are you?", "what is your age?"])
```

Reshape the vectors:

```
vector_1 = np.array(vectors[0]).reshape(1, -1)
vector_2 = np.array(vectors[1]).reshape(1, -1)
```

Use the cosine_similarity function to calculate the similarity:

```
cosine_similarity(vector_1, vector_2)
```

```
0.94797838
```

The above code is just a simple instructions on how to calculate similarity but ofcourse you will need to evaluate the performance based on your current best model results to give you a better idea. I believe this package capabilities will be improved further and it will unleash huge potential in the field of NLP.

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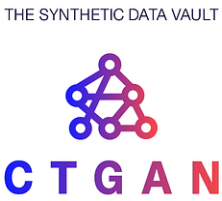

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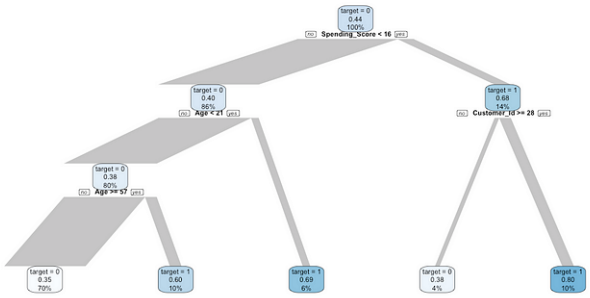

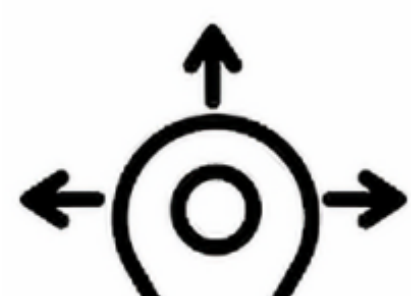

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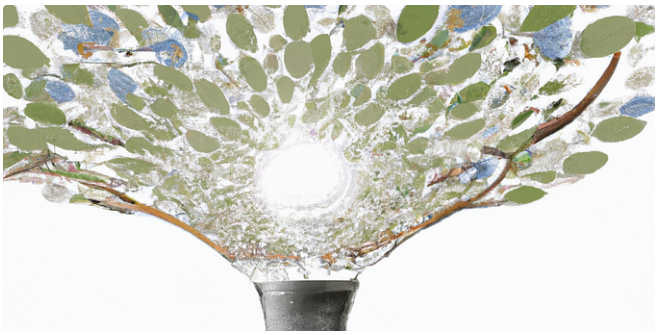

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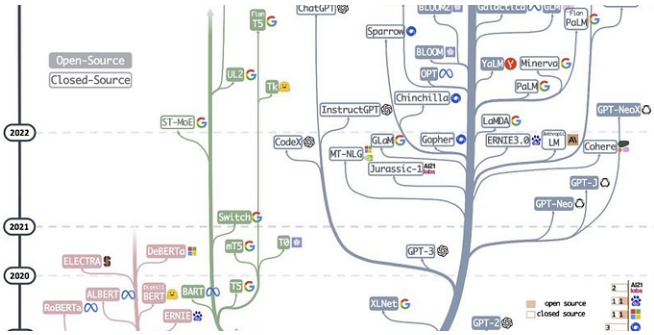

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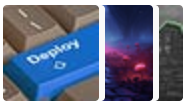

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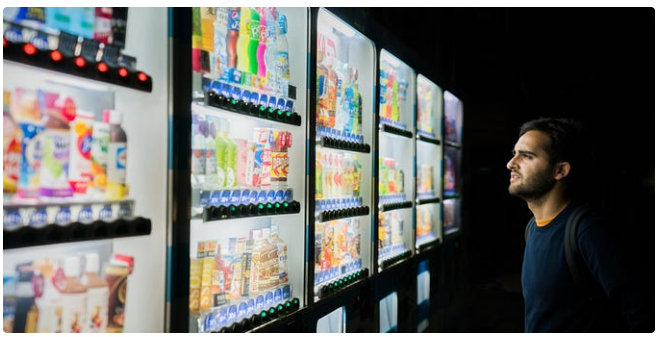

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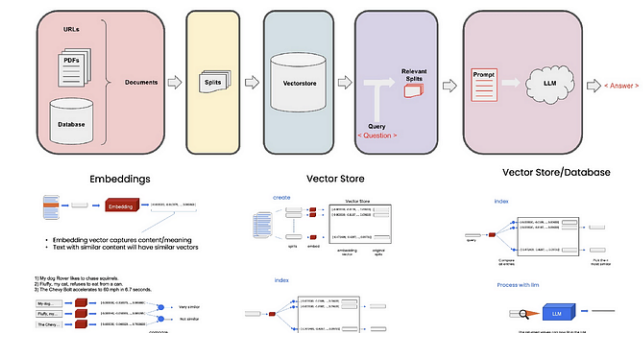

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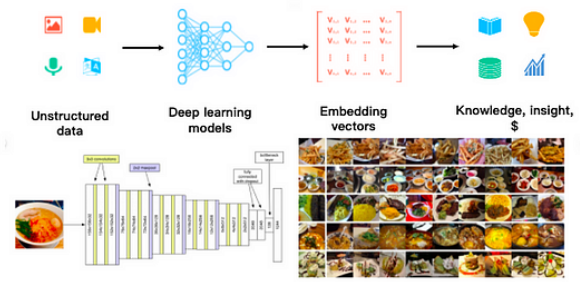

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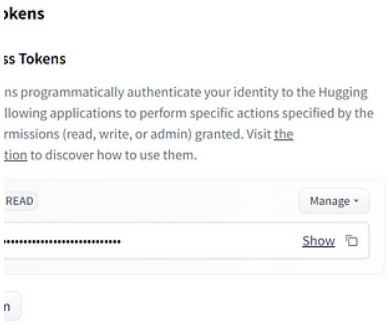

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