Gen-AI Hands On-1

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Section: A

Documentation :

Cell 1&2: importing required modules for the hands on session

- transformers
- os
- nltk

cell 3: path to text file

cell 4: to load and read file try block

cell 5: look at the first 500 characters of the text file

cell 6: setting seed number so as to create a different sequence of random numbers

cell 7: giving a prompt for searching

cell 8&9: searching for the prompt and seeing how the distilled and the gpt2 models performs

- when seed value is 42

Now, change the seed value and run the code again. This time, the output **will change** because a different seed creates a different sequence of random numbers.

```
set_seed(42)
```

Step 2: Define a Prompt

Both models will complete this sentence.

```
prompt = "Generative AI is a revolutionary technology that"
```

Step 3: Fast Model (`distilgpt2`)

Let's see how the smaller model performs.

```
# Initialize the pipeline with the specific model
fast_generator = pipeline('text-generation', model='distilgpt2')

# Generate text
output_fast = fast_generator(prompt, max_length=50, num_return_sequences=1)
print(output_fast[0]['generated_text'])
```

```
Device set to use cuda:0
Truncation was not explicitly activated but `max_length` is provided a specific value, please use `truncation=True` to explicitly truncate examples to max length. Defaulting to 'longest_first' truncation strategy. If you ex
Setting `pad_token_id` to `eos_token_id`:50256 for open-end generation.
Both `max_new_tokens` (=256) and `max_length`(=50) seem to have been set. `max_new_tokens` will take precedence. Please refer to the documentation for more information. (https://huggingface.co/docs/transformers/main/en/mai
Generative AI is a revolutionary technology that can take on the task of finding, learning, and learning in a given environment.
```

Step 4: Standard Model (`gpt2`)

Now let's try the standard model.

```
smart_generator = pipeline('text-generation', model='gpt2')

output_smart = smart_generator(prompt, max_length=50, num_return_sequences=1)
print(output_smart[0]['generated_text'])
```

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Generative AI is a revolutionary technology that enables a wide range of intelligent systems to work independently from one another. It introduces a new way of thinking about AI and provides a new paradigm for the developmen

In this article, we will discuss the main features of the new AI platform, and how it can be used to help us create a world that will improve our lives for the better.

1. How Can I Use It?

The concept of AI is not new. It has been used by many people to measure their mental health and health-related behaviors, and as a tool for medical research, it has been used by many of us to track and report on our mental

It is based on the premise that AI is a way for humans to move towards a more efficient way of thinking, and therefore, a better way of living.

In this article, we will explain what AI can do.

What does it do

In this article, we will explain how all of our cognitive and emotional systems interact with the AI platform. The main features of AI are:

A new way of thinking about AI

A new paradigm for the development of intelligent AI

A new way of thinking about mental health and health-related behaviors
```

when seed value is 45

```
set_seed(45)
```

Step 2: Define a Prompt

Both models will complete this sentence.

```
prompt = "Generative AI is a revolutionary technology that"
```

Step 3: Fast Model (`distilgpt2`)

Let's see how the smaller model performs.

```
# Initialize the pipeline with the specific model
fast_generator = pipeline('text-generation', model='distilgpt2')

# Generate text
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Generative AI is a revolutionary technology that can revolutionize and transform the world in the most significant way possible.
```

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Generative AI is a revolutionary technology that is the future. We are now in the last decade or so of a global AI revolution. It is being used to create artificial intelligence in the fields of medicine and medical research

The world's most powerful AI is being used to develop new medicines. It is in this context that we are witnessing the emergence of new kinds of artificial intelligence. The emergence of new medicines is a significant trend.

Is the emergence of AI the key to the breakthrough of medicine?

Yes, it is. AI has been around for about 10 years now, and has been used to develop new treatments.

Is there an emerging medical field where AI is needed in medicine to treat infections, diseases or conditions?

There are many medical fields where AI is needed in medicine. In this field, AI is becoming a very important factor in medicine.

Is there a need for new treatments for cancer?

There are a lot of treatments available for cancer.

Is there a need for new treatments for Alzheimer's disease?

There are an estimated
```

when seed value is 50

```
set_seed(50)
```

Step 2: Define a Prompt

Both models will complete this sentence.

```
prompt = "Generative AI is a revolutionary technology that"
```

Step 3: Fast Model (distilgpt2)

Let's see how the smaller model performs.

```
# Initialize the pipeline with the specific model
fast_generator = pipeline('text-generation', model='distilgpt2')

# Generate text
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Generative AI is a revolutionary technology that will allow us to make our lives better.
```

Step 4: Standard Model (gpt2)

Now let's try the standard model.

```
smart_generator = pipeline('text-generation', model='gpt2')

output_smart = smart_generator(prompt, max_length=50, num_return_sequences=1)
print(output_smart[0]['generated_text'])
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Generative AI is a revolutionary technology that could revolutionize the way we think about and interact with machines. While it is currently not a game, and certainly not a game-breaking technology, it will be a game-breaki
```
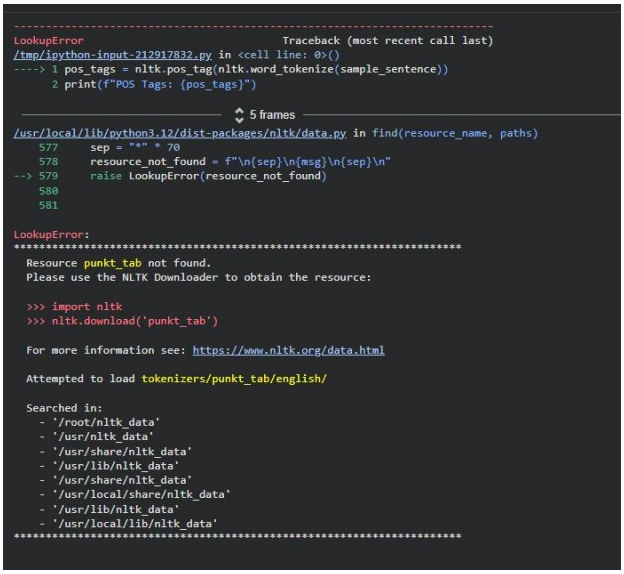

Difference between distilled model and gpt 2 ? Compare the two outputs. Does the standard model stay more on topic? Does the fast model drift into nonsense?

Cells under 3.1

Used to tokenize the data example of a sentence and how its broken to tokens and then ids are assigned

3.2 understanding the grammar



We ger this error when we try to tag our sentence so we add :

nltk.download('punkt_tab', quiet=True)

this downloads extra language rule files needed by NLTK's tokenizer. Newer NLTK/Python versions require it for word tokenize; without it, tokenization fails.

This output shows POS (Part-of-Speech) tagging, where NLTK labels what role each word plays in the sentence.

- Transformers (NNS) → a plural noun (more than one transformer)
- revolutionized (VBD) → a verb in past tense (an action that already happened)
- NLP (NNP) → a proper noun (a specific name or term)
- . (.) → punctuation

3.3 part to split the data tokens into groups and recognize if they are names or organizations or dates Gives an output as a table with entity name and type and score which tells us how important the entity is .

4. comparation part

4.1 compares two models : distilbart-cnn-12-6 and bart-large-cnn based on how they summarize a group of sentences

- bart-large-cnn
    - Bigger and more powerful model
    - Gives better, more detailed summaries

    - Slower and needs more memory
- distilbart-cnn-12-6
    - A smaller, faster version of BART
    - Slightly less accurate summaries
    - Uses less memory, good for quick tasks

4.2 is how the models perform question answer part

4.3 used to see how good the model predicts the missing value in the data based on the content given. It gives a list of possible word with their probabilities