

# Transforming

In this notebook, we will explore how to use Large Language Models for text transformation tasks such as language translation, spelling and grammar checking, tone adjustment, and format conversion.

## Setup

```
In [1]: import openai
import os

from dotenv import load_dotenv, find_dotenv
_ = load_dotenv(find_dotenv()) # read local .env file

openai.api_key = os.getenv('OPENAI_API_KEY')
```

```
In [2]: def get_completion(prompt, model="gpt-3.5-turbo", temperature=0):
    messages = [{"role": "user", "content": prompt}]
    response = openai.ChatCompletion.create(
        model=model,
        messages=messages,
        temperature=temperature,
    )
    return response.choices[0].message["content"]
```

## Translation

ChatGPT is trained with sources in many languages. This gives the model the ability to do translation. Here are some examples of how to use this capability.

```
In [3]: prompt = f"""
Translate the following English text to Spanish: \
```Hi, I would like to order a blender```
"""

response = get_completion(prompt)
print(response)
```

Hola, me gustaría ordenar una licuadora.

```
In [4]: prompt = f"""
Tell me which language this is:
```Combien coûte le lampadaire?```
"""

response = get_completion(prompt)
print(response)
```

This language is French.

```
In [5]: prompt = f"""
Translate the following text to French and Spanish
and English pirate: \
```I want to order a basketball```
"""
response = get_completion(prompt)
print(response)
```

French: ```Je veux commander un ballon de basket```  
 Spanish: ```Quiero ordenar una pelota de baloncesto```  
 English: ```I want to order a basketball```

```
In [6]: prompt = f"""
Translate the following text to Spanish in both the \
formal and informal forms:
'Would you like to order a pillow?'
"""
response = get_completion(prompt)
print(response)
```

Formal: ¿Le gustaría ordenar una almohada?  
 Informal: ¿Te gustaría ordenar una almohada?

## Universal Translator

Imagine you are in charge of IT at a large multinational e-commerce company. Users are messaging you with IT issues in all their native languages. Your staff is from all over the world and speaks only their native languages. You need a universal translator!

```
In [7]: user_messages = [
    "La performance du système est plus lente que d'habitude.", # System perf
    "Mi monitor tiene píxeles que no se iluminan.", # My monitor
    "Il mio mouse non funziona", # My mouse is
    "Mój klawisz Ctrl jest zepsuty", # My keyboard
    "我的屏幕在闪烁" # My screen
]
```

```
In [8]: for issue in user_messages:
        prompt = f"Tell me what language this is: ```{issue}```"
        lang = get_completion(prompt)
        print(f"Original message ({lang}): {issue}")

        prompt = f"""
        Translate the following text to English \
        and Korean: ```{issue}```
        """
        response = get_completion(prompt)
        print(response, "\n")
```

Original message (The language is French.): La performance du système est plu  
s lente que d'habitude.

The performance of the system is slower than usual.

시스템의 성능이 평소보다 느립니다.

Original message (The language is Spanish.): Mi monitor tiene píxeles que no  
se iluminan.

English translation: "My monitor has pixels that do not light up."

Korean translation: "내 모니터에는 밝아지지 않는 픽셀이 있습니다."

Original message (The language is Italian.): Il mio mouse non funziona

English: "My mouse is not working."

Korean: "내 마우스가 작동하지 않습니다."

Original message (The language is Polish.): Mój klawisz Ctrl jest zepsuty

English: "My Ctrl key is broken"

Korean: "내 Ctrl 키가 고장 났어요"

Original message (The language is Chinese.): 我的屏幕在闪烁

English: My screen is flickering.

Korean: 내 화면이 깜박거립니다.

## Try it yourself!

Try some translations on your own!

In [ ]:

## Tone Transformation

Writing can vary based on the intended audience. ChatGPT can produce different tones.

```
In [9]: prompt = f"""  
        Translate the following from slang to a business letter:  
        'Dude, This is Joe, check out this spec on this standing lamp.'  
        """  
        response = get_completion(prompt)  
        print(response)
```

Dear Sir/Madam,

I hope this letter finds you well. My name is Joe, and I am writing to bring your attention to a specification document regarding a standing lamp.

I kindly request that you take a moment to review the attached spec, as it contains important details about the standing lamp in question.

Thank you for your time and consideration. I look forward to hearing from you soon.

Sincerely,  
Joe

## Format Conversion

ChatGPT can translate between formats. The prompt should describe the input and output formats.

```
In [10]: data_json = { "resturant employees" :[
            {"name":"Shyam", "email":"shyamjaiswal@gmail.com"},
            {"name":"Bob", "email":"bob32@gmail.com"},
            {"name":"Jai", "email":"jai87@gmail.com"}
        ]}

prompt = f"""
Translate the following python dictionary from JSON to an HTML \
table with column headers and title: {data_json}
"""

response = get_completion(prompt)
print(response)
```

```
<!DOCTYPE html>
<html>
<head>
<style>
table {
  font-family: arial, sans-serif;
  border-collapse: collapse;
  width: 100%;
}

td, th {
  border: 1px solid #dddddd;
  text-align: left;
  padding: 8px;
}

tr:nth-child(even) {
  background-color: #dddddd;
}
</style>
</head>
<body>

<h2>Restaurant Employees</h2>

<table>
  <tr>
    <th>Name</th>
    <th>Email</th>
  </tr>
  <tr>
    <td>Shyam</td>
    <td>shyamjaiswal@gmail.com</td>
  </tr>
  <tr>
    <td>Bob</td>
    <td>bob32@gmail.com</td>
  </tr>
  <tr>
    <td>Jai</td>
    <td>jai87@gmail.com</td>
  </tr>
</table>

</body>
</html>
```

```
In [11]: from IPython.display import display, Markdown, Latex, HTML, JSON
display(HTML(response))
```

## Restaurant Employees

Name	Email
Shyam	shyamjaiswal@gmail.com
Bob	bob32@gmail.com
Jai	jai87@gmail.com

## Spellcheck/Grammar check.

Here are some examples of common grammar and spelling problems and the LLM's response.

To signal to the LLM that you want it to proofread your text, you instruct the model to 'proofread' or 'proofread and correct'.

```
In [12]: text = [
    "The girl with the black and white puppies have a ball.", # The girl has
    "Yolanda has her notebook.", # ok
    "Its going to be a long day. Does the car need it's oil changed?", # Homoc
    "Their goes my freedom. There going to bring they're suitcases.", # Homor
    "Your going to need you're notebook.", # Homonyms
    "That medicine effects my ability to sleep. Have you heard of the butterfly",
    "This phrase is to cherck chatGPT for speling abilitty" # spelling
]
for t in text:
    prompt = f"""Proofread and correct the following text
    and rewrite the corrected version. If you don't find
    and errors, just say "No errors found". Don't use
    any punctuation around the text:
    ```{t}```"""
    response = get_completion(prompt)
    print(response)
```

The girl with the black and white puppies has a ball.

No errors found.

It's going to be a long day. Does the car need its oil changed?

There goes my freedom. They're going to bring their suitcases.

You're going to need your notebook.

That medicine affects my ability to sleep. Have you heard of the butterfly effect?

This phrase is to check chatGPT for spelling ability.

```
In [13]: text = f"""
Got this for my daughter for her birthday cuz she keeps taking \
mine from my room. Yes, adults also like pandas too. She takes \
it everywhere with her, and it's super soft and cute. One of the \
ears is a bit lower than the other, and I don't think that was \
designed to be asymmetrical. It's a bit small for what I paid for it \
though. I think there might be other options that are bigger for \
the same price. It arrived a day earlier than expected, so I got \
to play with it myself before I gave it to my daughter.
"""

prompt = f"proofread and correct this review: ``{text}``"
response = get_completion(prompt)
print(response)
```

Got this for my daughter for her birthday because she keeps taking mine from my room. Yes, adults also like pandas too. She takes it everywhere with her, and it's super soft and cute. However, one of the ears is a bit lower than the other, and I don't think that was designed to be asymmetrical. Additionally, it's a bit small for what I paid for it. I believe there might be other options that are bigger for the same price. On the positive side, it arrived a day earlier than expected, so I got to play with it myself before I gave it to my daughter.

```
In [14]: from redlines import Redlines

diff = Redlines(text,response)
display(Markdown(diff.output_markdown))
```

Got this for my daughter for her birthday ~~cuz-because~~ she keeps taking mine from my ~~room-~~  
~~room~~. Yes, adults also like pandas ~~too-too~~. She takes it everywhere with her, and it's super  
soft and ~~cute-One~~ cute. However, one of the ears is a bit lower than the other, and I don't  
think that was designed to be asymmetrical. ~~It's-Additionally, it's~~ a bit small for what I paid for  
~~it-though-it~~. I ~~think-believe~~ there might be other options that are bigger for the same ~~price-It~~  
~~price~~. On the positive side, it arrived a day earlier than expected, so I got to play with it myself  
before I gave it to my ~~daughter-daughter~~.



```
In [15]: prompt = f"""
proofread and correct this review. Make it more compelling.
Ensure it follows APA style guide and targets an advanced reader.
Output in markdown format.
Text: ```{text}```
"""

response = get_completion(prompt)
display(Markdown(response))
```

## Review of a Panda Plush Toy: A Perfect Gift for All Ages

I purchased this adorable panda plush toy as a birthday gift for my daughter, who has a penchant for sneaking into my room and taking mine. It's worth noting that pandas are not just for kids; even adults can't resist their charm.

From the moment my daughter unwrapped this gift, she has been inseparable from it. The plush toy is incredibly soft and undeniably cute, making it the perfect companion for her daily adventures. However, I did notice a minor flaw in its design - one of the ears is slightly lower than the other, which seems unintentional. Nonetheless, this asymmetry does not detract from its overall appeal.

While the quality and cuteness of the panda plush toy are undeniable, I must admit that I expected it to be slightly larger considering its price. It would be wise to explore other options that offer a larger size for the same price point.

On a positive note, the delivery of this product exceeded my expectations. It arrived a day earlier than anticipated, allowing me to indulge in some playtime with the plush toy before presenting it to my daughter. This unexpected bonus only added to the excitement and joy surrounding this gift.

In conclusion, this panda plush toy is a delightful and enchanting gift suitable for individuals of all ages. Its softness, cuteness, and undeniable appeal make it a must-have for any panda enthusiast. While it may be slightly smaller than expected, its overall quality and the early delivery make it a worthwhile purchase.

## Try it yourself!

Try changing the instructions to form your own review.

In [ ]:

Thanks to the following sites:

<https://writingprompts.com/bad-grammar-examples/> (<https://writingprompts.com/bad-grammar-examples/>)

