

**PIPELINE FUNCTION**

```
pip install transformers
```

```
Requirement already satisfied: transformers in /usr/local/lib/python3.10/dist-packages (4.41.2)
Requirement already satisfied: filelock in /usr/local/lib/python3.10/dist-packages (from transformers) (3.15.4)
Requirement already satisfied: huggingface-hub<1.0,>=0.23.0 in /usr/local/lib/python3.10/dist-packages (from transformers) (0.23.4)
Requirement already satisfied: numpy>=1.17 in /usr/local/lib/python3.10/dist-packages (from transformers) (1.25.2)
Requirement already satisfied: packaging>=20.0 in /usr/local/lib/python3.10/dist-packages (from transformers) (24.1)
Requirement already satisfied: pyyaml>=5.1 in /usr/local/lib/python3.10/dist-packages (from transformers) (6.0.1)
Requirement already satisfied: regex!=2019.12.17 in /usr/local/lib/python3.10/dist-packages (from transformers) (2024.5.15)
Requirement already satisfied: requests in /usr/local/lib/python3.10/dist-packages (from transformers) (2.31.0)
Requirement already satisfied: tokenizers<0.20,>=0.19 in /usr/local/lib/python3.10/dist-packages (from transformers) (0.19.1)
Requirement already satisfied: safetensors>=0.4.1 in /usr/local/lib/python3.10/dist-packages (from transformers) (0.4.3)
Requirement already satisfied: tqdm>=4.27 in /usr/local/lib/python3.10/dist-packages (from transformers) (4.66.4)
Requirement already satisfied: fsspec>=2023.5.0 in /usr/local/lib/python3.10/dist-packages (from huggingface-hub<1.0,>=0.23.0->transformers) (2023.12.1)
Requirement already satisfied: typing-extensions>=3.7.4.3 in /usr/local/lib/python3.10/dist-packages (from huggingface-hub<1.0,>=0.23.0->transformers) (4.11.0)
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.10/dist-packages (from requests->transformers) (3.3.2)
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.10/dist-packages (from requests->transformers) (3.7)
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.10/dist-packages (from requests->transformers) (2.0.7)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.10/dist-packages (from requests->transformers) (2024.6.2)
```

```
from transformers import pipeline
```

**Sentiment Analysis** : Classifies text as positive or negative.

Suggested code may be subject to a license | Akshaykumarcpc/explore-hugging-face

```
sentiment_classifier = pipeline("sentiment-analysis")
sentiment_classifier("I love exploring the world of Artificial Intelligence.")
```

```
No model was supplied, defaulted to distilbert/distilbert-base-uncased-finetuned-sst-2-english and revision af0f99b (https://huggingface.co/distilbert/distilbert-base-uncased-finetuned-sst-2-english).
Using a pipeline without specifying a model name and revision in production is not recommended.
/usr/local/lib/python3.10/dist-packages/huggingface_hub/file_download.py:1132: FutureWarning: `resume_download` is deprecated and will be removed in a future version. To opt-in for this behavior, pass `resume_download=True`. To suppress this warning, pass the argument `silence_future_warnings=True` to the Hub API.
warnings.warn(
[{'label': 'POSITIVE', 'score': 0.999763548374176}]
```

**Sentiment Analysis** : Classifies text as positive or negative. We can pass multiple texts to the object returned by a pipeline to treat them together.

```
sentiment_classifier2 = pipeline("sentiment-analysis")
sentiment_classifier2(["I love exploring the world of Artificial Intelligence.", "I hate when it comes to AI."])
```

```
No model was supplied, defaulted to distilbert/distilbert-base-uncased-finetuned-sst-2-english and revision af0f99b (https://huggingface.co/distilbert/distilbert-base-uncased-finetuned-sst-2-english).
Using a pipeline without specifying a model name and revision in production is not recommended.
/usr/local/lib/python3.10/dist-packages/huggingface_hub/file_download.py:1132: FutureWarning: `resume_download` is deprecated and will be removed in a future version. To opt-in for this behavior, pass `resume_download=True`. To suppress this warning, pass the argument `silence_future_warnings=True` to the Hub API.
warnings.warn(
[{'label': 'POSITIVE', 'score': 0.999763548374176},
 {'label': 'NEGATIVE', 'score': 0.9976014494895935}]
```

**Zero Shot Classification** : Lets you select the labels for classification.

```
zero_shot_classifier = pipeline("zero-shot-classification")
zero_shot_classifier("I am learning about Transformers library.", candidate_labels=["education", "business", "politics"])
```

```
No model was supplied, defaulted to facebook/bart-large-mnli and revision c626438 (https://huggingface.co/facebook/bart-large-mnli).
Using a pipeline without specifying a model name and revision in production is not recommended.
/usr/local/lib/python3.10/dist-packages/huggingface_hub/file_download.py:1132: FutureWarning: `resume_download` is deprecated and will be removed in a future version. To opt-in for this behavior, pass `resume_download=True`. To suppress this warning, pass the argument `silence_future_warnings=True` to the Hub API.
warnings.warn(
{'sequence': 'I am learning about Transformers library.',
 'labels': ['education', 'business', 'politics'],
 'scores': [0.9638839364051819, 0.024315163493156433, 0.011800955981016159]}
```

**Text Generation** : Uses an input prompt to generate text

```
text_generator = pipeline("text-generation")
text_generator("In this world, artificial intelligence is")
```

⚡ No model was supplied, defaulted to openai-community/gpt2 and revision 6c0e608 (<https://huggingface.co/openai-community/gpt2>)  
Using a pipeline without specifying a model name and revision in production is not recommended. Please use `revision` to specify the model version. (FutureWarning: FutureWarning: Using a pipeline without specifying a model name and revision in production is not recommended. Please use `revision` to specify the model version.)

config.json: 100% 665/665 [00:00<00:00, 12.1kB/s]

model.safetensors: 100% 548M/548M [00:10<00:00, 28.0MB/s]

generation\_config.json: 100% 124/124 [00:00<00:00, 4.95kB/s]

tokenizer\_config.json: 100% 26.0/26.0 [00:00<00:00, 1.47kB/s]

vocab.json: 100% 1.04M/1.04M [00:00<00:00, 3.15MB/s]

merges.txt: 100% 456k/456k [00:00<00:00, 1.87MB/s]

tokenizer.json: 100% 1.36M/1.36M [00:00<00:00, 3.35MB/s]

Setting `pad\_token\_id` to `eos\_token\_id`:50256 for open-end generation.

```
[{'generated_text': 'In this world, artificial intelligence is becoming increasingly common and powerful in many ways. We have the potential for great things and great things will happen to us, while also becoming less common, very slowly, as we live.'}]
```

### Text Generation Pipeline using distilgpt2 model.

- `max_length` : Maximum number of words in the output.
- `num_return_sequences` : The number of outputs we want.

```
generator = pipeline("text-generation", model="distilgpt2")
generator("In this world, artificial intelligence is", max_length = 30, num_return_sequences = 3)
```

⚡ Truncation was not explicitly activated but `max\_length` is provided a specific value, please use `truncation=True` to explicitly truncate inputs to avoid overflowing.

```
[{'generated_text': 'In this world, artificial intelligence is nothing less than a tool for human error, and the new invention is an especially interesting milestone in the scientific community.'},
 {'generated_text': 'In this world, artificial intelligence is now the most dominant technology in the whole of the modern world. It is even better than traditional intelligence: it can'},
 {'generated_text': 'In this world, artificial intelligence is getting its first real world test. An anonymous professor of computer science at Harvard is calling for "an entirely new kind"'}]
```

### Fill Mask Pipeline : Predicts missing words in a sentence.

```
unmasker = pipeline("fill-mask")
unmasker("AI will teach you all about <mask> models.", top_k=2)
```

⚡ No model was supplied, defaulted to distilbert/distilroberta-base and revision ec58a5b ( <https://huggingface.co/distilbert/distilroberta-base> )  
Using a pipeline without specifying a model name and revision in production is not recommended. Please use `revision` to specify the model version. (FutureWarning: FutureWarning: Using a pipeline without specifying a model name and revision in production is not recommended. Please use `revision` to specify the model version.)

config.json: 100% 480/480 [00:00<00:00, 10.5kB/s]

model.safetensors: 100% 331M/331M [00:14<00:00, 11.6MB/s]

Some weights of the model checkpoint at distilbert/distilroberta-base were not used when initializing DistilBertForMaskedLM. This is expected if you are initializing DistilBertForMaskedLM from the checkpoint of a model that was initialized with additional layers that are now removed.

tokenizer\_config.json: 100% 25.0/25.0 [00:00<00:00, 800B/s]

vocab.json: 100% 899k/899k [00:00<00:00, 2.74MB/s]

merges.txt: 100% 456k/456k [00:00<00:00, 2.77MB/s]

tokenizer.json: 100% 1.36M/1.36M [00:00<00:00, 3.36MB/s]

```
[{'score': 0.11678976565599442,
 'token': 30412,
 'token_str': ' mathematical',
 'sequence': 'AI teach you all about mathematical models.'},
 {'score': 0.07936157286167145,
 'token': 38163,
 'token_str': ' computational',
 'sequence': 'AI teach you all about computational models.'}]
```

**Named Entity Recognition (NER) Pipeline:** Identifies persons, organizations, or locations in a sentence.

```
ner = pipeline("ner", grouped_entities = True)
ner("My name is Mansi, I am an Elastic Engineer and Data Scientist at Ashnik in Mumbai.")
```

⚠ No model was supplied, defaulted to dbmdz/bert-large-cased-finetuned-conll03-english and revision f2482bf (<https://huggingface.co/dbmdz/bert-large-cased-finetuned-conll03-english>)  
Using a pipeline without specifying a model name and revision in production is not recommended.  
Some weights of the model checkpoint at dbmdz/bert-large-cased-finetuned-conll03-english were not used when initializing BertForTokenClassification  
- This IS expected if you are initializing BertForTokenClassification from the checkpoint of a model trained on another task or with another architecture  
- This IS NOT expected if you are initializing BertForTokenClassification from the checkpoint of a model that you expect to be exactly identical to  
/usr/local/lib/python3.10/dist-packages/transformers/pipelines/token\_classification.py:168: UserWarning: `grouped\_entities` is deprecated  
warnings.warn(  
[{'entity\_group': 'PER',  
 'score': 0.99788505,  
 'word': 'Mansi',  
 'start': 11,  
 'end': 16},  
{ 'entity\_group': 'ORG',  
 'score': 0.9884639,  
 'word': 'Ashnik',  
 'start': 65,  
 'end': 71},  
{ 'entity\_group': 'LOC',  
 'score': 0.99883837,  
 'word': 'Mumbai',  
 'start': 75,  
 'end': 81}]

**Question - Answering Pipeline:** Extracts answers to a question from the given text.

```
question_answering = pipeline("question-answering")
question_answering(
    question="Where do I work?",
    context="My name is Mansi, I am an ELK Engineer and Data Scientist at Ashnik in Mumbai.",
)
```

⚠ No model was supplied, defaulted to distilbert/distilbert-base-cased-distilled-squad and revision 863539e  
Using a pipeline without specifying a model name and revision in production is not recommended.  
/usr/local/lib/python3.10/dist-packages/huggingface\_hub/file\_download.py:1132: FutureWarning: `use\_auth\_token` is deprecated.  
warnings.warn(  
config.json: 100% 473/473 [00:00<00:00, 12.2kB/s]  
model.safetensors: 100% 261M/261M [00:16<00:00, 16.4MB/s]  
tokenizer\_config.json: 100% 49.0/49.0 [00:00<00:00, 2.29kB/s]  
vocab.txt: 100% 213k/213k [00:00<00:00, 1.32MB/s]  
tokenizer.json: 100% 436k/436k [00:00<00:00, 5.26MB/s]  
{ 'score': 0.4395807385444641, 'start': 61, 'end': 67, 'answer': 'Ashnik' }

**Summarization:** Creates summaries of long texts.

```
summarizer = pipeline("summarization")
summarizer("""
Generative AI (GenAI) is a type of Artificial Intelligence that can create a wide variety of data, such as images, videos, audio, text, and
""")
```

```

No model was supplied, defaulted to sshleifer/distilbart-cnn-12-6 and revision a4f8f3e (
Using a pipeline without specifying a model name and revision in production is not recom
/usr/local/lib/python3.10/dist-packages/huggingface_hub/file_download.py:1132: FutureWar
warnings.warn(
/usr/local/lib/python3.10/dist-packages/huggingface_hub/utils/_token.py:89: UserWarning:
The secret `HF_TOKEN` does not exist in your Colab secrets.
To authenticate with the Hugging Face Hub, create a token in your settings tab (https://
You will be able to reuse this secret in all of your notebooks.
Please note that authentication is recommended but still optional to access public model
warnings.warn(
config.json: 100%                               1.80k/1.80k [00:00<00:00, 79.2kB/s]

pytorch_model.bin: 100%                         1.22G/1.22G [00:12<00:00, 94.9MB/s]

tokenizer_config.json: 100%                     26.0/26.0 [00:00<00:00, 654B/s]

vocab.json: 100%                               899k/899k [00:00<00:00, 3.70MB/s]

merges.txt: 100%                               456k/456k [00:00<00:00, 1.90MB/s]

[{'summary_text': ' Generative AI (GenAI) is a type of Artificial Intelligence that can
create a wide variety of data, such as images, videos, audio, text, and 3D models .
GenAI is capable of producing highly realistic and complex content that mimics human

```

**Translation Pipeline:** Translates text from one language to another.

```

translator = pipeline("translation", model="Helsinki-NLP/opus-mt-fr-en")
translator("J'ai appris à propos pipelines")

```

```

[{'translation_text': 'I learned about pipelines'}]

```

Start coding or [generate](#) with AI.