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[facebook-dpr-ctx_encoder-single-nq-base](/sentence-transformers/facebook-dpr-

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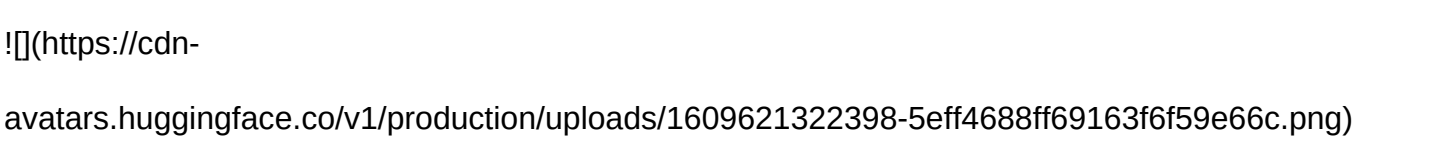
Follow



Sentence Transformers 1.26k

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[Model card](/sentence-transformers/facebook-dpr-ctx_encoder-single-nq-base)[Files Files and versions](/sentence-transformers/facebook-dpr-ctx_encoder-single-nq-base/tree/main)[Community 2](/sentence-transformers/facebook-dpr-ctx_encoder-single-nq-base/discussions)

Train

Deploy

Use this model

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sentence-transformers/facebook-dpr-ctx_encoder-single-nq-base

This is a port of the [DPR Model](https://github.com/facebookresearch/DPR) to [sentence-transformers](https://www.SBERT.net) model: It maps sentences & paragraphs to a 768 dimensional dense vector space and can be used for tasks like clustering or semantic search.

Usage (Sentence-Transformers)

Using this model becomes easy when you have [sentence-transformers](https://www.SBERT.net) installed:

```
pip install -U sentence-transformers
```

Then you can use the model like this:

```
from sentence_transformers import SentenceTransformer
sentences = ["This is an example sentence", "Each sentence is converted"]

model = SentenceTransformer('sentence-transformers/facebook-dpr-ctx_encoder-single-nq-base')
embeddings = model.encode(sentences)
print(embeddings)
```

Usage (HuggingFace Transformers)

Without [sentence-transformers](https://www.SBERT.net), you can use the model like this: First, you pass your input through the transformer model, then you have to apply the right pooling-operation on-top of the contextualized word embeddings.

```
from transformers import AutoTokenizer, AutoModel
import torch
```

```
    def cls_pooling(model_output, attention_mask):
        return model_output[0][:,0]


    # Sentences we want sentence embeddings for
    sentences = ['This is an example sentence', 'Each sentence is converted']

    # Load model from HuggingFace Hub
                                                                tokenizer                   =
AutoTokenizer.from_pretrained('sentence-transformers/facebook-dpr-ctx_encoder-single-nq-base')
                                                                    model                   =
AutoModel.from_pretrained('sentence-transformers/facebook-dpr-ctx_encoder-single-nq-base')

    # Tokenize sentences
    encoded_input = tokenizer(sentences, padding=True, truncation=True, return_tensors='pt')

    # Compute token embeddings
    with torch.no_grad():
        model_output = model(**encoded_input)

    # Perform pooling. In this case, max pooling.
    sentence_embeddings = cls_pooling(model_output, encoded_input['attention_mask'])

    print("Sentence embeddings:")
    print(sentence_embeddings)
```

Evaluation Results

For an automated evaluation of this model, see the _Sentence Embeddings Benchmark_ : [https://seb.sbert.net](https://seb.sbert.net?model_name=sentence-transformers/facebook-dpr-ctx_encoder-single-nq-base)

Full Model Architecture

```
SentenceTransformer(
  (0): Transformer({'max_seq_length': 509, 'do_lower_case': False}) with Transformer model: BertModel
  (1): Pooling({'word_embedding_dimension': 768, 'pooling_mode_cls_token': True, 'pooling_mode_mean_tokens': False, 'pooling_mode_max_tokens': False, 'pooling_mode_mean_sqrt_len_tokens': False})
)
```

Citing & Authors

Have a look at: [DPR Model](https://github.com/facebookresearch/DPR)

Downloads last month

966

Safetensors[](https://huggingface.co/docs/safetensors)

Model size

109M params

Tensor type

I64

.

F32

.

Inference Providers [NEW](https://huggingface.co/blog/inference-providers)

[Sentence Similarity](/tasks/sentence-similarity "Learn more about sentence-similarity")

This model is not currently available via any of the supported third-party Inference Providers, and the model is not deployed on the HF Inference API.

System theme

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